

حمل الآن

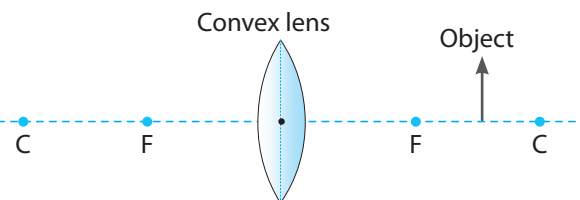
مجانا وحصريا

امتحانات رقم (1)

الترم الاول



- 2 In the opposite diagram, an object is placed 6 cm from a convex lens with a focal length of 4 cm. Determine the location of the formed image and its characteristics by drawing only two light rays.



(C) Give reasons for:

- 1 A moving car seems stable (at rest) to an observer who is moving at the same speed and in the same direction.
- 2 The number of chromosomes is constant in the same species that reproduce sexually.

2 (A) Complete the following sentences:

- 1 The image formed is always equal to the real object and can't be formed on a screen in the mirror.
- 2 The two gases that were present within the minutes of the Big Bang are and
- 3 In the case of the division of the cells, no changes in the genetic traits occur.

(B) Mention the uses of:

- 1 Speedometer:
- 2 Space telescope:

(C) What happens if ...?

- 1 A plane mirror is placed on the left side of the car driver.
- 2 The centromere is not found in the cell.

3 (A) Write the scientific term for each of the following:

- 1 It is the rate of change of displacement. (.....)
- 2 An eye disease that causes a difficulty of vision as a result of the darkness of the lens. (.....)
- 3 It is the continuous separation between the galaxies in the space as a result of their regular movement. (.....)

(B) Compare between each of the following:

- 1 Positive acceleration and negative acceleration. (According to the final speed)

Positive acceleration	Negative acceleration
.....

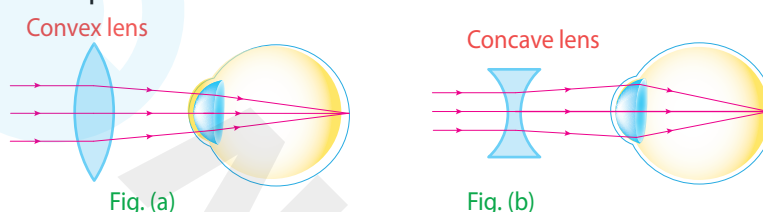
- 2 The focus of the concave mirror and the focus of the convex mirror.

(According to the type and location of focus)

Focus of the concave mirror	Focus of the convex mirror
.....

(C) Answer the following questions:

- 1 The following figures represent the correction of the vision defects:



- Where was the image formed before using the lens in each case?

.....

.....

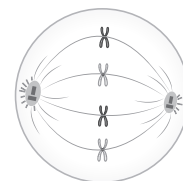
- 2 The opposite figure represents one of the cell division phases in an animal somatic cell.

a- What is this phase?

.....

b- What changes occur in this phase?

.....



- 4 (A) Put (✓) in front of the correct statement and (x) in front of the wrong ones, then correct the wrong ones:

- 1 The focal length of the spherical mirror is the distance between the focus and the center of the mirror curvature. ()
- 2 The solar system is located in the Milky Way galaxy. ()
- 3 Nebula loses temperature gradually in Laplace's theory. ()

(B) What is meant by...?

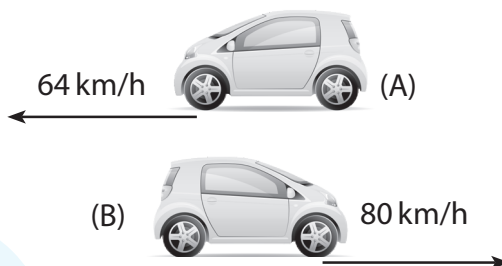
- 1 A car covers equal distances at equal periods of time.

.....

- 2 The focal lens of a convex lens is 15 cm.

C) Answer the following questions:

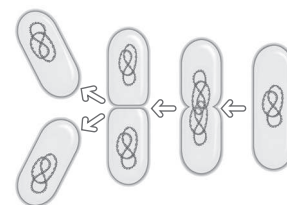
- 1 Look at the following figure, then answer:



- The relative speed for the observer in car (A) is

- 2 The opposite figure represents asexual reproduction in a living organism.

a- Identify the type of the asexual reproduction, and this living organism.



b- How does it occur?

Model (2)

20
Marks

1 (A) Correct the underlined words:

- 1 The measuring unit of distance is m/sec^2 . (.....)
- 2 The focal length of the spherical mirror is the distance between the focus and the center of the mirror curvature. (.....)
- 3 The chromosome chemically consists of DNA and lipids. (.....)

(B) What is meant by...?

- 1 Displacement equals the covered distance.
.....

- 2 The image formed by a concave lens is virtual.
.....

(C) What happens when ...?

- 1 A moving object takes twice the time to travel half the distance. (According to its speed)
.....
- 2 The Bulge is disconnected from the paternal cell in the yeast fungus after it is fully grown.
.....

2 (A) Complete the following sentences:

- 1 Real image can't be formed by lens or spherical mirror.
- 2 The solar system planets are kept in their orbits due to
- 3 If the nucleus of a pollen grain of a plant contains (10) chromosomes, then the nucleus of its leaves' cells contains (.....) pairs of chromosomes.

(B) Give reasons for:

- 1 The amount of fuel consumed during flying between two cities differs by the difference in the wind direction.
.....
- 2 In the plane mirror, the image can't be received on a screen.
.....

(C) Mention the function or the role of:

- 1 Hubble telescope:
- 2 Vegetative reproduction:

3 (A) Write the scientific term for each of the following:

- 1 It is the speed by which the object moves when it covers equal distances at equal periods of time. (.....)
- 2 It is the point of collection of the extensions of the refracted light rays by a concave lens. (.....)
- 3 A group of stars that rotate together in the space by the effect of gravity. (.....)

(B) Compare between each of the following:

- 1 Average speed and relative speed. (According to definition and measuring units)

Average speed	Relative speed
.....
.....
.....

- 2 Short-sightedness and long-sightedness. (According to the type of lens which is used to treat each one)

Short-sightedness	Long-sightedness
.....
.....

(C) Answer the following questions:

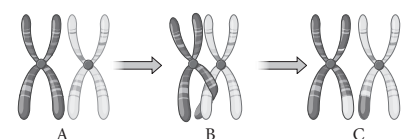
- 1 A convex lens has a 20 cm focal length. An object is placed at a distance of 40 cm from the lens. Show by drawing the path of the rays falling on the lens and reflected ones from it.

.....

.....

.....

- 2 The phenomenon shown in the opposite figure is called **crossing over** and occurs at the end of the **prophase I**.



4 (A) Put (✓) in front of the correct statement and (x) in front of the wrong ones, then correct the wrong ones:

- 1 If you put an object at a distance of 17 cm from a concave mirror with a focal length of 20 cm, the image will be formed behind the mirror. ()
- 2 The solar system is found on one of the oval arms of the Milky Way galaxy. ()
- 3 Pollination is the combination of a male gamete with a female gamete to form a zygote. ()

(B) Answer the following questions:

- 1 A runner covered 50 meters northward within 30 seconds, 100 meters eastward within 60 seconds, then 50 meters southwards within 10 seconds, calculate its average speed.

.....

- 2 Determine the type of the optical piece (mirror - lens), then mention its type (convex – concave – plane).

- The optical piece forms a virtual, upright, enlarged image on the other side of the object only if the object is placed at a distance less than its focal length.

.....
.....

(C) Answer the following questions:

- 1 An object moves with a uniform acceleration over a period of 15 seconds, where its speed reaches 72 km/h after 5 seconds. Then, after the next 10 seconds, its speed decreases to 54 km/h.

a- Calculate the acceleration of the moving object.

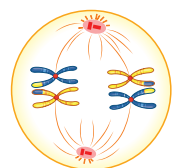
.....
.....
.....

b- What is the type of acceleration? And why?

.....

- 2 Look at the opposite figure which represents a meiotic division, then draw the phase following it.

.....
.....



Model (3)

20
Marks

1 (A) Choose the correct answer:

- 1 When a train moves with a relative speed equals 70 km/h. What does this mean?
 - a) The train's speed is constant.
 - b) The train is moving at 70 km/h regardless the observer's position.
 - c) The speed of the train relative to an observer equals 70 km/h.
 - d) The train always has zero acceleration.
- 2 If a light ray is incident at an angle of 60° on a plane mirror, what is the expected angle of reflection?
 - a) 30°
 - b) 45°
 - c) 60°
 - d) 90°
- 3 How many cells are produced when an amoeba cell undergoes three mitotic divisions?
 - a) 4 cells
 - b) 6 cells
 - c) 8 cells
 - d) 10 cells

(B) What is meant by...?

- 1 A car moves at 20 m/sec. and after 5 seconds, its speed becomes 15 m/sec.
.....

- 2 Meiosis division is a reduction division.
.....
.....

(C) What happens when ...?

- 1 An object returns to its primary position of its movement (regarding its displacement).
.....
- 2 A starfish loses one of its arms that contains a part of the central disk.
.....

2 (A) Complete the following sentences:

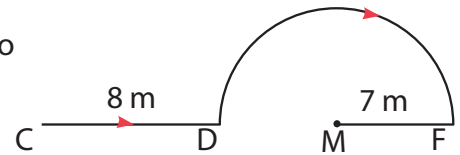
- 1 passes by the optical center of the lens, except the principal axis.
- 2 Scientist Laplace is the founder of the Theory that explains the formation of the solar system.
- 3 In mitotic division, the changes that occur in the are called adverse changes.

(B) When the following values equal zero:

- 1 The acceleration of a moving body.
.....
- 2 The angle of reflection of a light ray from the reflecting surface of a plane mirror.
.....

(C) Answer the following questions:

- 1 In the opposite figure, an object is moving from point (C) to point (M) passing by two points (D, F) in 5 seconds.



Find:

a- The covered distance.

.....

.....

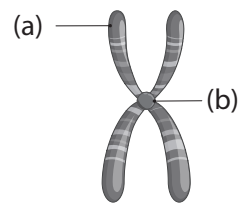
b- The velocity

.....

.....

- 2 What happens to structure (b) during anaphase?

.....



- 3 (A) Write the scientific term for each of the following:

- 1 It is the change of an object's location as time passes according to the position of another fixed object. (.....)
- 2 Any line that passes by the optical center of the lens, except the principal axis. (.....)
- 3 Groups of galaxies that rotate together in cosmic space by the effect of gravity. (.....)

(B) Compare between each of the following:

- 1 Sponge and starfish. (According to the type of reproduction)

Sponge	Starfish
.....

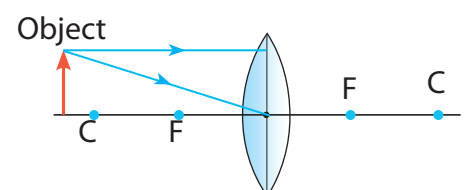
- 2 Virtual image and real image. (According to its property, inverted or upright)

Virtual image	Real image
.....

(C) Answer the following questions:

- 1 Look at the opposite figure, then answer:

a - Complete the drawing.



b- Mention the properties of the formed image.

2 State the importance of Nano-molecules of gold particles in the medical field.

4 (A) Put (✓) in front of the correct statement and (x) in front of the wrong ones, then correct the wrong ones:

1 Contact lenses are placed directly on the eye retina and can be easily removed. ()

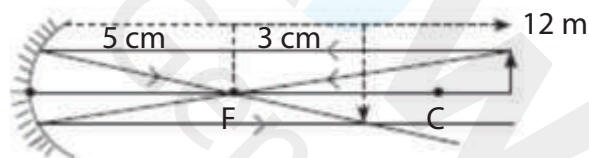
2 The light year is the distance covered by light is one year. ()

3 Molten established the modern theory that explains the origin of the solar system. ()

(B) Answer the following questions:

1 A train moves with a speed of 20 m/sec and when using the brakes it moves with deceleration 4m/sec^2 . Calculate the time required to stop the train.

2 Look at the following figure, then answer:



a- The object must move cm towards the mirror so that an inverted, equal, real image is formed for the object.

b- The object must move cm towards the mirror so that the rays are reflected parallel.

(C) Give reasons for:

1 (Distance - Time) graph of an object that moves at a uniform speed is a straight line passing through the origin point.

2 A donor for a part of the liver suffers no harm and can survive.

Model (4)

20
Marks

1 (A) Correct the underlined words:

- 1 When an object covers double the distance in the same time, so its speed decreases to quarter.
(.....)
- 2 The angle between the incident light ray and the reflected one is 40° , so the angle of incidence is 40° .
(.....)
- 3 The number of chromosomes in a sperm is twice the number of chromosomes in a female egg of the same species.
(.....)

(B) Answer the following questions:

- 1 Calculate the real speed of a car whose relative speed is 130 km/h relative to an observer moving in the opposite direction at a speed 50 km/h.
.....
.....
.....
- 2 Explain by drawing the formed image by convex lens, when the body is at a distance less than the focal lens (before the focus), then write the properties of the formed image.
.....
.....
.....

The image is

(C) What is meant by...?

- 1 The distance covered in a fixed direction is 100 m.
.....
- 2 Crossing over phenomenon.
.....

2 (A) Choose the correct answer:

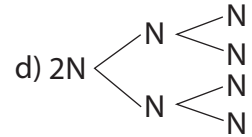
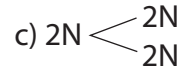
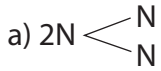
1 The mirror that its reflecting surface is a part of the inner surface of a hollow sphere is a mirror.

- a) convex b) divergent c) converging d) plane

2 established the crossing star theory.

- a) Laplace b) Alfred Hale c) Hubble d) Chamberlin

3 Which of the following represents a complete meiotic division?



(B) Give reasons for:

1 The body which moves at acceleration can't move at a regular speed.

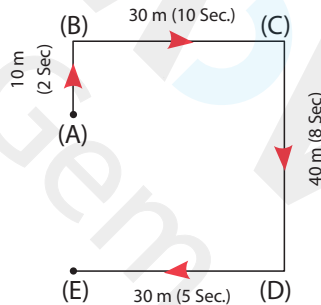
.....

2 Vision defects occur.

.....

(C) Answer the following questions:

1 A person moves in the path (a, b, c, d, e) as shown in the figure, he covered a distance northward in 2 seconds, then covered 30 meters eastward in 10 seconds, and followed by 40 meters southward in 8 seconds, finally 30 meters westward in 5 seconds.



a. Calculate his displacement from the start to the end of the motion.

.....

d. In which part his speed was the least?

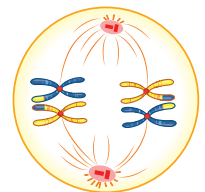
.....

2 Look at the opposite figure, then answer:

- Describe what happens in this phase.

.....

.....



3 (A) Complete the following sentences:

- 1 The distance of an object to the plane mirror the distance of its image to the mirror, and the straight line that connects between the object and its image is on the surface of the mirror.
- 2 The reflecting surface of the convex mirror is a part of the surface of the sphere.
- 3 Earliest life forms began to appear on the Earth after about years from the Big Bang.

(B) What are the results of the following ...?

- 1 The initial speed of a moving object is greater than its final speed.

.....
.....

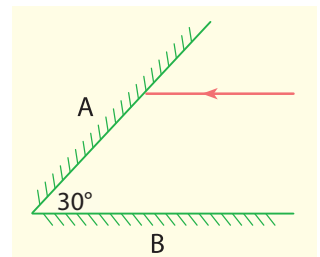
- 2 Falling of parallel beam of light parallel to the principal axis of a convex lens.

.....

(C) Answer the following questions:

- 1 If a light ray falls on mirror (A) such that it is parallel to mirror (B) as in the opposite figure. Trace the path of the ray until its reflection on mirror (B), then calculate the angle of reflection of the light ray on mirror (B).

.....
.....
.....



- 2 Look at the following figures, then answer:

Figure (1)	Figure (2)
This living organism is, and reproduces by	This living organism is, and reproduces by

4 (A) Put (✓) in front of the correct statement and (x) in front of wrong the ones, then correct the wrong ones:

- 1 Converging mirrors are used in dentists' clinics to form a magnified image of the teeth. ()
- 2 The universe is in a state of continuous expansion. ()
- 3 Sudden violent chemical reactions occur within the star which led to its explosion. ()

.....

(B) Answer the following:

- 1 Compare between acceleration, and deceleration by graph.

Acceleration	Deceleration

- 2 Mention the properties of the image formed by concave mirror when the object is located between the focus and the center of curvature, explain by drawing.

.....

.....

(C) Answer the following questions:

- 1 The following table shows the relation between the speed of a moving object and the time taken.

The speed (m/sec)	5	10	20	30	35	40
Time (sec)	1	2	4	6	7	8

- a. Draw the graphical relation between (V) on Y-axis and (T) on X-axis.

.....

.....

- b. From the graph, find the acceleration of the body.

.....

- 2 Mention the structure of the chromosome, then show your answer with drawing and label it.

.....

.....

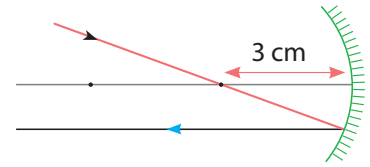
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Model (5)

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Marks

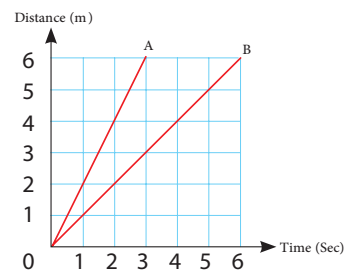
1 (A) Complete the following sentences:

- 1 Velocity differs from displacement in
- 2 In the opposite figure, the radius of mirror curvature = cm.
- 3 Somatic cells are divided by, while reproductive cells are divided by



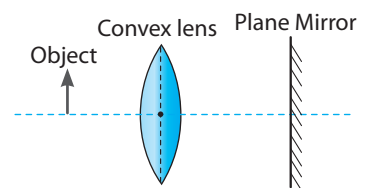
(B) Answer the following questions:

- 1 The opposite graph represents the (distance – time) graph of the movement of two bodies (A) and (B).
 - a. What is the kind of speed of the two bodies?



- b. Calculate the ratio between the speed of body (A) and that of body (B).

- 2 Why no image is formed for the object inside the mirror in the opposite figure.



(C) What happens in the following cases ...?

- 1 A moving body returns back to its starting point concerning its displacement.
- 2 Reproductive cells don't divide by meiosis.

2 (A) Cross out the odd word:

- 1 The properties of a concave lens image: Virtual / Magnified / Erect / Diminished. (.....)
- 2 Crossing star Theory / Nebula Theory / Big Bang Theory / Modern Theory. (.....)
- 3 Simple algae / Bacteria / Paramecium / Sponge. (.....)

(B) What is meant by...?

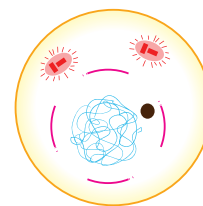
- 1 Velocity:
- 2 Optical center:

(C) Answer the following questions:

- 1 Calculate the actual speed to the car whose relative speed is 130 Km/h relative to an observer moving in the same direction at speed of 50 Km/h.

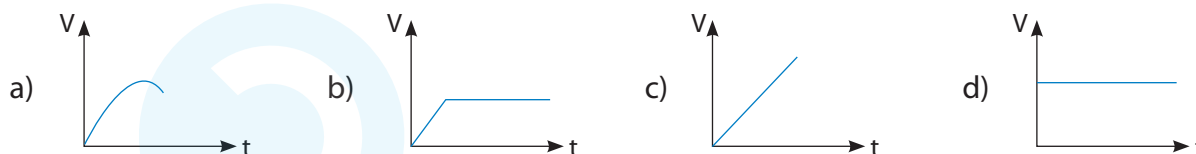
2 Look at the opposite figure, then answer:

- Why does the cell pass through this phase?



3 (A) Choose the correct answer:

1 Which of the following graphical relations represents a body moving by a uniform acceleration?



2 If you put an object in front of a plane mirror, the ratio between the length of the image and the length of the object is

- a) more than one b) not equal one c) less than one d) equal to one

3 The nucleolus and the nuclear membrane disappear in

- a) metaphase b) telophase c) prophase d) interphase

(B) Compare between each of the following:

1

Crossing star theory	Modern theory
Origin of the solar system:	Origin of the solar system:

2

Focus of mirror	Focus of lens
.....
.....

(C) Give reasons for:

1 To obtain a suitable image of an object, it should be placed at a distance less than the focal length of the concave mirror.

2 The reproduction by spores is one of the forms of asexual reproduction.

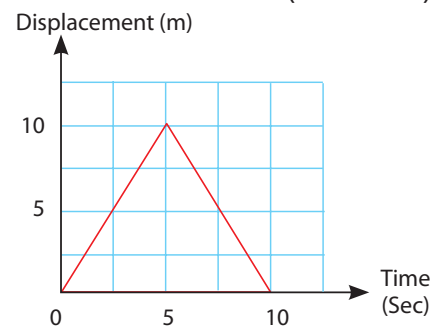
4 (A) Write the scientific term for each of the following:

- 1 A spherical mirror its shining surface is a part of the outer surface of the sphere. (.....)
- 2 A gaseous sphere revolving around itself, from which the solar system assumed to be originated. (.....)
- 3 The theory that assumed that an explosion results in all forms of energy, matter, space, and time. (.....)

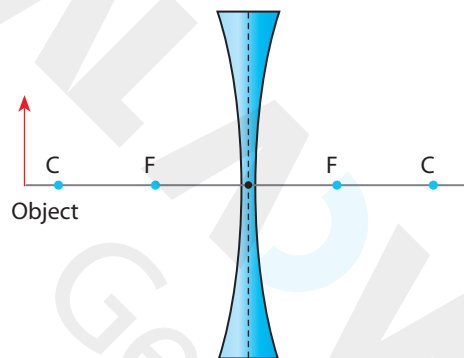
(B) Answer the following questions:

- 1 From the opposite figure, calculate:

- a. Total distance =
- b. Displacement =
- c. Velocity after 5 seconds =



- 2 Determine the position and the properties of the formed image by drawing two light rays only.



- The image position:
- The image properties:

(C) Answer the following questions:

- 1 Mention the first law of light reflection:
- 2 Mention the role or the importance of DNA:

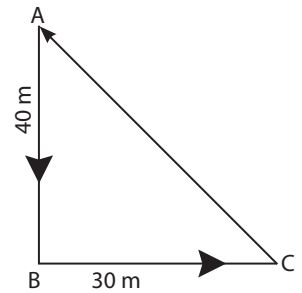
Model (1) Answer

20
Marks

1 (A) Choose the correct answer:

- 1 In the opposite figure, a body starts its motion from point (A) to point (B), then point (C), then returned to point (A), so the distance covered equals meter(s).

a) zero
b) 50
c) 70
d) 120



- 2 The convex lens which has the greatest thickness from the following, its focal length is

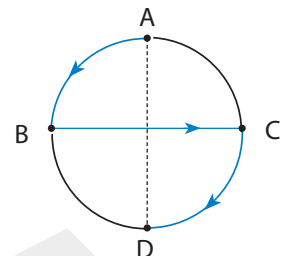
a) 4 cm
b) 6 cm
c) 8 cm
d) 10 cm

- 3 Which of the following organs shows the right number of chromosomes?

Choice	a.	b.	c.	d.
The organ	skin	testis	uterus	ovaries
Its cells have (2n)	✓	✗	✗	✓
Produce cells (n)	✓	✓	✗	✓

(B) Answer the following questions:

- 1 In the opposite figure, a car moves in a circular path whose radius is 14 meters from point (A) to (D) passing through (B) and (C) in 10 seconds. The car movement changed as shown in the opposite figure. (If you know that the circumference of the circle = $2\pi r$, where $\pi = 3.14$)



Calculate: - Average speed.

Answer

$$\text{Circumference of the circle} = 2\pi r = 2 \times 3.14 \times 14 = 87.9 \text{ m}$$

Distance covered =

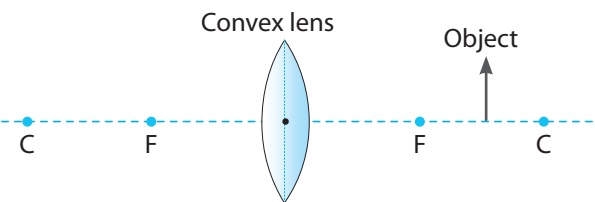
$$\frac{1}{4} \text{ Circumference of the circle} + \text{Diameter of the circle} + \frac{1}{4} \text{ Circumference of the circle}$$

$$= \left(\frac{1}{4} \times 87.9\right) + (2 \times 14) + \left(\frac{1}{4} \times 87.9\right) = 71.95 \text{ m}$$

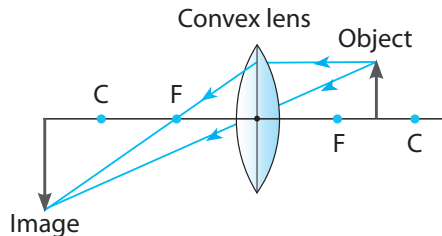
$$\text{Average Speed} = \frac{\text{Total Distance}}{\text{Total Time}}$$

$$\text{Average Speed} = \frac{\text{Circumference}}{\text{Time}} = \frac{71.95}{10} = 7.19 \text{ m/sec}$$

- 2 In the opposite diagram, an object is placed 6 cm from a convex lens with a focal length of 4 cm. Determine the location of the formed image and its characteristics by drawing only two light rays.



- The location of the image is as follows:



- The image is real, inverted, and magnified.

(C) Give reasons for:

- 1 A moving car seems stable (at rest) to an observer who is moving at the same speed and in the same direction.
 - Because the relative speed, which is the difference between their speeds, is equal to zero.
- 2 The number of chromosomes is constant in the same species that reproduce sexually.
 - Because the male gamete and the female gamete each contain half the number of chromosomes (n), then during fertilization, a zygote is formed containing the whole number of chromosomes (2n).

2 (A) Complete the following sentences:

- 1 The image formed is always equal to the real object and can't be formed on a screen in the plane mirror.
- 2 The two gases that were present within the minutes of the Big Bang are hydrogen and helium.
- 3 In the case of the mitotic division of the cells, no changes in the genetic traits occur.

(B) Mention the uses of:

- 1 Speedometer: It helps in identifying the speed of the car directly.
- 2 Space telescope: It is used to form near and enlarged images for the celestial bodies.

(C) What happens if ...?

- 1 A plane mirror is placed on the left side of the car driver.
 - The driver can't see the whole road behind the cars, due to the formation of equal images.
- 2 The centromere is not found in the cell.
 - The spindle fibers are not formed, and cell division won't be completed.

3 (A) Write the scientific term for each of the following:

- 1 It is the rate of change of displacement. (Velocity)
- 2 An eye disease that causes a difficulty of vision as a result of the darkness of the lens. (Cataract)
- 3 It is the continuous separation between the galaxies in the space as a result of their regular movement. (Expansion of the universe)

(B) Compare between each of the following:

- 1 Positive acceleration and negative acceleration. (According to the final speed)

Positive acceleration	Negative acceleration
Its final speed is more than its initial speed.	Its final speed is less than its initial speed.

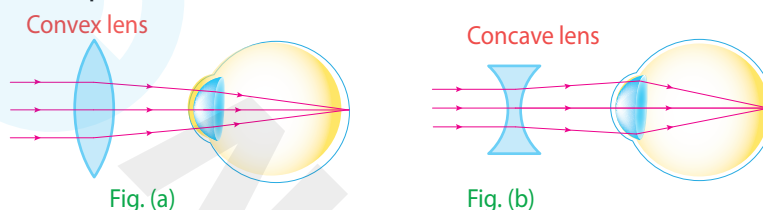
- 2 The focus of the concave mirror and the focus of the convex mirror.

(According to the type and location of focus)

Focus of the concave mirror	Focus of the convex mirror
- It's a real focus.	- It's a virtual focus.
- It is located in front of the concave mirror.	- It is located behind the convex mirror.

(C) Answer the following questions:

- 1 The following figures represent the correction of the vision defects:



- Where was the image formed before using the lens in each case?
- In figure (a) the image is formed behind the retina, while in figure (b) the image is formed in front of the retina.

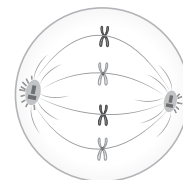
- 2 The opposite figure represents one of the cell division phases in an animal somatic cell.

a- What is this phase?

- Metaphase.

b- What changes occur in this phase?

- The chromosomes that are connected with the spindle fibers are arranged at the cell equator.



- 4 (A) Put (✓) in front of the correct statement and (x) in front of the wrong ones, then correct the wrong ones:

- 1 The focal length of the spherical mirror is the distance between the focus and the center of the mirror curvature. (x)
- Correction: - The focal length of the spherical mirror is the distance between the focus and the pole of the mirror.
- 2 The solar system is located in the Milky Way galaxy. (✓)
- 3 Nebula loses temperature gradually in Laplace's theory. (✓)

(B) What is meant by...?

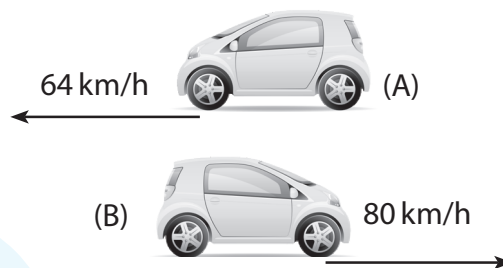
- 1 A car covers equal distances at equal periods of time.
- This means that the car moves with a regular (uniform) speed.

2 The focal lens of a convex lens is 15 cm.

- This means that the distance between the principal focus and the optical center of the lens is 15 cm.

C) Answer the following questions:

1 Look at the following figure, then answer:



- The relative speed for the observer in car (A) is 144 km/h.

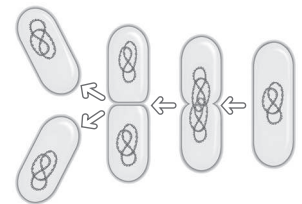
2 The opposite figure represents asexual reproduction in a living organism.

a- Identify the type of the asexual reproduction, and this living organism.

- Reproduction by binary fission in bacteria.

b- How does it occur?

- The nucleus divides by mitotic division and the cell splits into two cells, where each one grows into a new individual.



Model (2) Answer

20
Marks

1 (A) Correct the underlined words:

- 1 The measuring unit of distance is m/sec^2 . (acceleration)
- 2 The focal length of the spherical mirror is the distance between the focus and the center of the mirror curvature. (the pole of the mirror)
- 3 The chromosome chemically consists of DNA and lipids. (proteins)

(B) What is meant by...?

- 1 Displacement equals the covered distance.
This means that the body moves in a straight line.
- 2 The image formed by a concave lens is virtual.
This means that the image can't be received on a screen.

(C) What happens when ...?

- 1 A moving object takes twice the time to travel half the distance. (According to its speed)
- The speed of the moving body is reduced to a quarter.
- 2 The Bulge is disconnected from the paternal cell in the yeast fungus after it is fully grown.
- It will form a new yeast fungus identical to its parent.

2 (A) Complete the following sentences:

- 1 Real image can't be formed by concave lens or convex spherical mirror.
- 2 The solar system planets are kept in their orbits due to the Sun's gravitational force.
- 3 If the nucleus of a pollen grain of a plant contains (10) chromosomes, then the nucleus of its leaves' cells contains (10) pairs of chromosomes.

(B) Give reasons for:

- 1 The amount of fuel consumed during flying between two cities differs by the difference in the wind direction.
- Because the wind direction affects the velocity of the plane, and so the amount of fuel consumed.
- 2 In the plane mirror, the image can't be received on a screen.
- Because it is a virtual image.

(C) Mention the function or the role of:

- 1 Hubble telescope: It collects photos of the universe that give us details about its state millions of years ago and give the astronomers an opportunity to study the evolution of the universe after the Big Bang.
- 2 Vegetative reproduction: Producing new individuals identical to the parental individual without the need of seeds.

3 (A) Write the scientific term for each of the following:

- 1 It is the speed by which the object moves when it covers equal distances at equal periods of time.
(Regular "uniform" speed)
- 2 It is the point of collection of the extensions of the refracted light rays by a concave lens.
(The virtual focus of the concave lens)
- 3 A group of stars that rotate together in the space by the effect of gravity. (Galaxies)

(B) Compare between each of the following:

- 1 Average speed and relative speed. (According to definition and measuring units)

Average speed	Relative speed
- It is the total distance covered by a moving object divided by the total time taken to cover this distance.	- It is the speed of a moving object relative to a static or a moving observer.
- Measuring unit: m/sec or km/h	- Measuring unit: m/sec or km/h

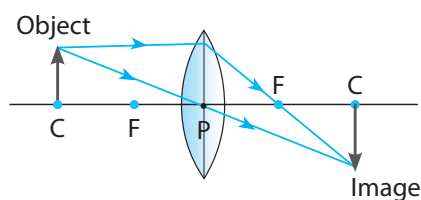
- 2 Short-sightedness and long-sightedness. (According to the type of lens which is used to treat each one)

Short-sightedness	Long-sightedness
- Type of lens to treat short-sightedness: Concave lens	- Type of lens to treat long-sightedness: Convex lens

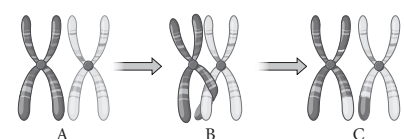
(C) Answer the following questions:

- 1 A convex lens has a 20 cm focal length. An object is placed at a distance of 40 cm from the lens. Show by drawing the path of the rays falling on the lens and reflected ones from it.

Answer:



- 2 The phenomenon shown in the opposite figure is called **crossing over** and occurs at the end of the **prophase I**.



4 (A) Put (✓) in front of the correct statement and (X) in front of the wrong ones, then correct the wrong ones:

- 1 If you put an object at a distance of 17 cm from a concave mirror with a focal length of 20 cm, the image will be formed behind the mirror. (✓)
- 2 The solar system is found on one of the oval arms of the Milky Way galaxy. (X)
- Correction: - The solar system is found on one of the spiral arms of the Milky Way galaxy.
- 3 Pollination is the combination of a male gamete with a female gamete to form a zygote. (X)
- Correction: Fertilization is the combination of a male gamete with a female gamete to form a zygote.

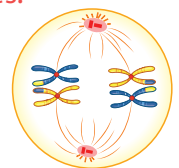
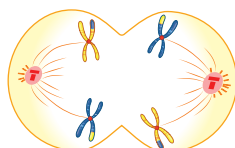
(B) Answer the following questions:

- 1 A runner covered 50 meters northward within 30 seconds, 100 meters eastward within 60 seconds, then 50 meters southwards within 10 seconds, calculate its average speed.
$$\bar{V} = \frac{\text{total (d)}}{\text{total (t)}} = \frac{50+100+50}{60+60+10} = 2 \text{ m/sec}$$
- 2 Determine the type of the optical piece (mirror - lens), then mention its type (convex – concave – plane).
- The optical piece forms a virtual, upright, enlarged image on the other side of the object only if the object is placed at a distance less than its focal lens.
- Optical piece: Mirror
- Its type: Concave

(C) Answer the following questions:

- 1 An object moves with a uniform acceleration over a period of 15 seconds, where its speed reaches 72 km/h after 5 seconds. Then, after the next 10 seconds, its speed decreases to 54 km/h.
a- Calculate the acceleration of the moving object.
$$V_1 = 72 \times \frac{5}{18} = 20 \text{ m/sec}$$
$$V_2 = 54 \times \frac{5}{18} = 15 \text{ m/sec}$$
$$a = \frac{V_2 - V_1}{\Delta t} = \frac{15 - 20}{10} = -0.5 \text{ m/sec}^2$$

b- What is the type of acceleration? And why?
- It is negative acceleration (deceleration) because the speed of the object decreases.
- 2 Look at the opposite figure which represents a meiotic division, then draw the phase following it.



Model (3) Answer

20
Marks

1 (A) Choose the correct answer:

- 1 When a train moves with a relative speed equals 70 km/h. What does this mean?
a) The train's speed is constant.
b) The train is moving at 70 km/h regardless the observer's position.
c) The speed of the train relative to an observer equals 70 km/h.
d) The train always has zero acceleration.
- 2 If a light ray is incident at an angle of 60° on a plane mirror, what is the expected angle of reflection?
a) 30° b) 45° c) 60° d) 90°
- 3 How many cells are produced when an amoeba cell undergoes three mitotic divisions?
a) 4 cells b) 6 cells c) 8 cells d) 10 cells

(B) What is meant by...?

- 1 A car moves at 20 m/sec. and after 5 seconds, its speed becomes 15 m/sec.
- This means that the car moves at a negative acceleration equals -1 m/sec^2 .
- 2 Meiosis division is a reduction division.
- This means that the number of chromosomes is reduced in gametes to its half number during this type of division.

(C) What happens when ...?

- 1 An object returns to its primary position of its movement (regarding its displacement).
- The displacement of the moving body equals zero.
- 2 A starfish loses one of its arms that contains a part of the central disk.
- The starfish compensates its lost arm and the arm forms a new individual.

2 (A) Complete the following sentences:

- 1 The secondary axis passes by the optical center of the lens, except the principal axis.
- 2 Scientist Laplace is the founder of the Nebular Theory that explains the formation of the solar system.
- 3 In mitotic division, the changes that occur in the telophase are called adverse changes.

(B) When the following values equal zero:

- 1 The acceleration of a moving body.
- If the object moves with a regular (uniform) speed.
- 2 The angle of reflection of a light ray from the reflecting surface of a plane mirror.
- If the incident light ray falls perpendicular on the plane mirror.

(C) Answer the following questions:

- 1 In the opposite figure, an object is moving from point (C) to point (M) passing by two points (D, F) in 5 seconds.

Find:

a- The covered distance.

$$\text{Distance from D to F} = \frac{1}{2} \times 2 \pi r = \frac{1}{2} \times 2 \times \frac{22}{7} \times 7 = 22 \text{ m}$$

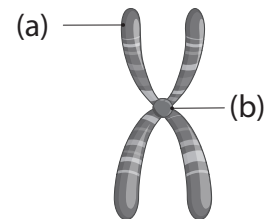
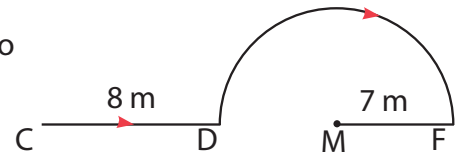
$$\text{So, the covered distance} = 8 + 22 + 7 = 37 \text{ m}$$

b- The velocity

$$\text{Velocity} = \frac{\text{Displacement}}{\text{Time}} = \frac{8+7}{5} = 3 \text{ m/sec}$$

- 2 What happens to structure (b) during anaphase?

- It splits lengthwise into two halves.



3 (A) Write the scientific term for each of the following:

- 1 It is the change of an object's location as time passes according to the position of another fixed object. **(Motion)**
- 2 Any line that passes by the optical center of the lens, except the principal axis. **(Secondary axis of the lens)**
- 3 Groups of galaxies that rotate together in cosmic space by the effect of gravity. **(Galaxies clusters)**

(B) Compare between each of the following:

- 1 Sponge and starfish. (According to the type of reproduction)

Sponge	Starfish
Reproduction by budding	Reproduction by regeneration

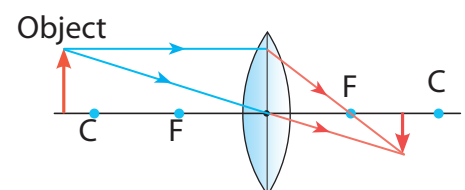
- 2 Virtual image and real image. (According to its property, inverted or upright)

Virtual image	Real image
Upright	Inverted

(C) Answer the following questions:

- 1 Look at the opposite figure, then answer:

a - Complete the drawing.



b- Mention the properties of the formed image.

- Real, inverted, and diminished.

2 State the importance of Nano-molecules of gold particles in the medical field.

- They are used in cancer treatment.

4 (A) Put (✓) in front of the correct statement and (X) in front of the wrong ones, then correct the wrong ones:

1 Contact lenses are placed directly on the eye retina and can be easily removed. (X)

Correction: Contact lenses are placed directly on the eye cornea and can be easily removed.

2 The light year is the distance covered by light is one year. (✓)

3 Molten established the modern theory that explains the origin of the solar system. (X)

Correction: Fred Hoyle established the modern theory that explains the origin of the solar system.

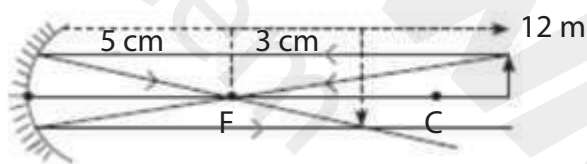
(B) Answer the following questions:

1 A train moves with a speed of 20 m/sec and when using the brakes it moves with deceleration 4m/sec^2 . Calculate the time required to stop the train.

$$V_1 = 20 \text{ m/sec} \quad V_2 = 0 \quad a = -4 \text{ m/sec}^2 \quad t = ?$$

$$t = \frac{V_2 - V_1}{a} = \frac{0 - 20}{-4} = 5 \text{ sec}$$

2 Look at the following figure, then answer:



a- The object must move 2 cm towards the mirror so that an inverted, equal, real image is formed for the object.

b- The object must move 7 cm towards the mirror so that the rays are reflected parallel.

(C) Give reasons for:

1 (Distance - Time) graph of an object that moves at a uniform speed is a straight line passing through the origin point.

- Because distance is directly proportional with time when the object moves with a constant speed.

2 A donor for a part of the liver suffers no harm and can survive.

- Because liver cells can divide by mitosis to compensate the missing part.

Model (4) Answer

20
Marks

1 (A) Correct the underlined words:

- 1 When an object covers double the distance in the same time, so its speed decreases to quarter.
(increases to double)
- 2 The angle between the incident light ray and the reflected one is 40° , so the angle of incidence is 40° . (20°)
- 3 The number of chromosomes in a sperm is twice the number of chromosomes in a female egg of the same species. (equal to)

(B) Answer the following questions:

- 1 Calculate the real speed of a car whose relative speed is 130 km/h relative to an observer moving in the opposite direction at a speed 50 km/h.

Answer:

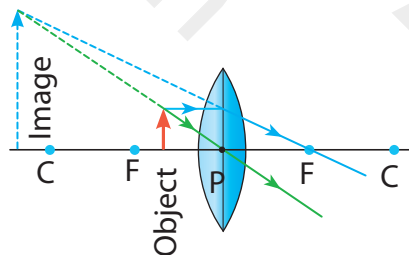
Relative speed = Actual speed - Observer's speed

Real speed = Relative speed + Observer's speed

$$= 130 + 50 = 180 \text{ km/h}$$

- 2 Explain by drawing the formed image by convex lens, when the body is at a distance less than the focal lens (before the focus), then write the properties of the formed image.

Answer:



- The image is virtual, erect, and magnified.

(C) What is meant by...?

- 1 The distance covered in a fixed direction is 100 m.

- The displacement equals 100 m.

- 2 Crossing over phenomenon.

It is the exchange of parts of genetic materials of two inner chromatids of the tetrad.

2 (A) Choose the correct answer:

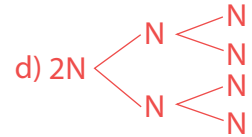
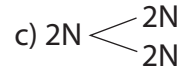
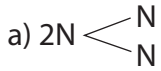
1 The mirror that its reflecting surface is a part of the inner surface of a hollow sphere is a mirror.

- a) convex b) divergent c) converging d) plane

2 established the crossing star theory.

- a) Laplace b) Alfred Hale c) Hubble d) Chamberlin

3 Which of the following represents a complete meiotic division?



(B) Give reasons for:

1 The body which moves at acceleration can't move at a regular speed.

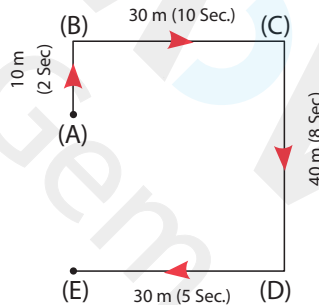
Because its speed changes by passing time.

2 Vision defects occur.

Because the eye lens isn't always convex or the eye isn't always spherical.

(C) Answer the following questions:

1 A person moves in the path (a, b, c, d, e) as shown in the figure, he covered a distance northward in 2 seconds, then covered 30 meters eastward in 10 seconds, and followed by 40 meters southward in 8 seconds, finally 30 meters westward in 5 seconds.



a. Calculate his displacement from the start to the end of the motion.

The displacement = $40 - 10 = 30$ meters southward

d. In which part his speed was the least?

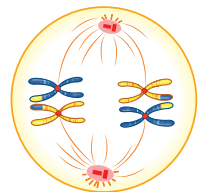
$$V_{AB} = \frac{10}{2} = 5 \text{ m/sec} \quad V_{BC} = \frac{30}{10} = 3 \text{ m/sec} \quad V_{CD} = \frac{40}{8} = 5 \text{ m/sec} \quad V_{DE} = \frac{30}{5} = 6 \text{ m/sec}$$

So, the least speed is at (BC)

2 Look at the opposite figure, then answer:

- Describe what happens in this phase.

The chromosomes which are connected to the spindle fibers are arranged at the cell equator.



3 (A) Complete the following sentences:

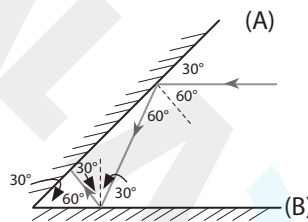
- 1 The distance of an object to the plane mirror **equals** the distance of its image to the mirror, and the straight line that connects between the object and its image is **perpendicular** on the surface of the mirror.
- 2 The reflecting surface of the convex mirror is a part of the **outer** surface of the sphere.
- 3 Earliest life forms began to appear on the Earth after about **12000 million** years from the Big Bang.

(B) What are the results of the following ...?

- 1 The initial speed of a moving object is greater than its final speed.
 - The speed of the moving body decreases by passing time, and its movement is described as decelerating motion.
- 2 Falling of parallel beam of light parallel to the principal axis of a convex lens.
 - They are collected at the focus (real focus).



(C) Answer the following questions:

- 1 If a light ray falls on mirror (A) such that it is parallel to mirror (B) as in the opposite figure. Trace the path of the ray until its reflection on mirror (B), then calculate the angle of reflection of the light ray on mirror (B).



- The reflecting angle from mirror (B) = 30°

- 2 Look at the following figures, then answer:

Figure (1)	Figure (2)
	
This living organism is bread mold , and reproduces by spores .	This living organism is yeast , and reproduces by budding .

4 (A) Put (✓) in front of the correct statement and (x) in front of wrong the ones, then correct the wrong ones:

- 1 Converging mirrors are used in dentists' clinics to form a magnified image of the teeth. (✓)
- 2 The universe is in a state of continuous expansion. (✓)
- 3 Sudden violent chemical reactions occur within the star which led to its explosion. (x)

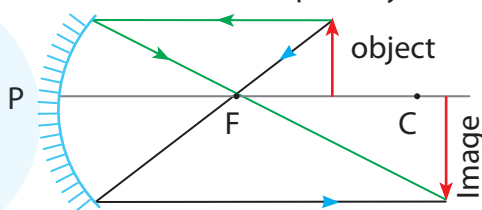
Correction: Sudden violent nuclear reactions occur within the star which led to its explosion.

(B) Answer the following:

- 1 Compare between acceleration, and deceleration by graph.



- 2 Mention the properties of the image formed by concave mirror when the object is located between the focus and the center of curvature, explain by drawing.



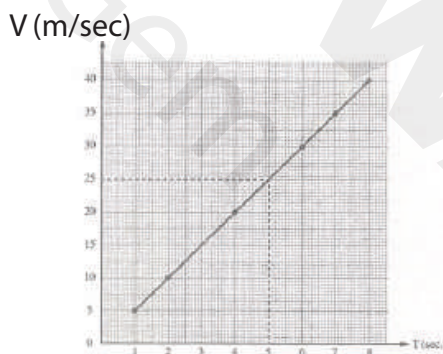
The image is real, inverted, and magnified.

(C) Answer the following questions:

- 1 The following table shows the relation between the speed of a moving object and the time taken.

The speed (m/sec)	5	10	20	30	35	40
Time (sec)	1	2	4	6	7	8

- a. Draw the graphical relation between (V) on Y-axis and (T) on X-axis.

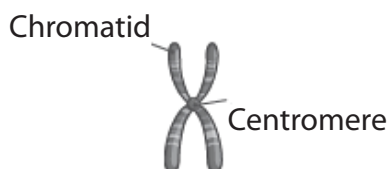


- b. From the graph, find the acceleration of the body.

$$\text{Acceleration} = \frac{v_2 - v_1}{t_2 - t_1} = \frac{40 - 5}{8 - 1} = 5 \text{ m/sec}^2$$

- 2 Mention the structure of the chromosome, then show your answer with drawing and label it.

- The chromosome consists of two chromatids, connected at a centromere.

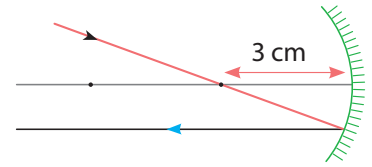


Model (5) Answer

20
Marks

1 (A) Complete the following sentences:

- 1 Velocity differs from displacement in **direction**.
- 2 In the opposite figure, the radius of mirror curvature = **6 cm**.
- 3 Somatic cells are divided by **mitotic cell division**, while reproductive cells are divided by **meiotic cell division**.



(B) Answer the following questions:

- 1 The opposite graph represents the (distance – time) graph of the movement of two bodies (A) and (B).

a. What is the kind of speed of the two bodies?

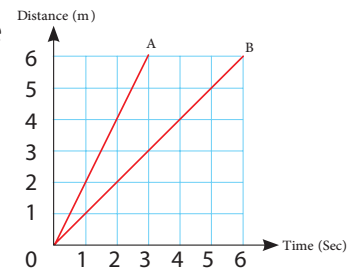
- **Regular speed.**

b. Calculate the ratio between the speed of body (A) and that of body (B).

$$V_1 \text{ (for body A)} = \frac{6}{3} = 2 \text{ m/sec}$$

$$V_2 \text{ (for body B)} = \frac{6}{6} = 1 \text{ m/sec}$$

The ratio between A : B is 2 : 1.



- 2 Why no image is formed for the object inside the mirror in the opposite figure.

- **Because the refracted light rays from the lens are parallel and don't intersect.**

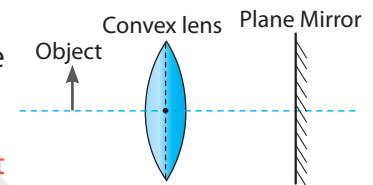
(C) What happens in the following cases ...?

- 1 A moving body returns back to its starting point concerning its displacement.

- **Its displacement = Zero**

- 2 Reproductive cells don't divide by meiosis.

- **No gametes will be formed.**



2 (A) Cross out the odd word:

- 1 The properties of a concave lens image: Virtual / Magnified / Erect / Diminished. (**Magnified**)
- 2 Crossing star Theory / Nebula Theory / Big Bang Theory / Modern Theory. (**Big Bang Theory**)
- 3 Simple algae / Bacteria / Paramecium / Sponge. (**Sponge**)

(B) What is meant by...?

- 1 Velocity: **The displacement happens in one second.**
- 2 Optical center: **It is the point inside the lens that lies on the principal axis.**

(C) Answer the following questions:

- 1 Calculate the actual speed to the car whose relative speed is 130 Km/h relative to an observer moving in the same direction at speed of 50 Km/h.

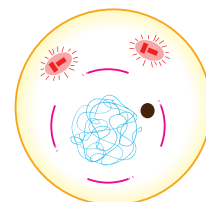
- Relative speed = Actual speed – Observer's speed

- Actual speed = Relative speed + Observer's speed = 130 + 150 = 180 Km/h

- 2 Look at the opposite figure, then answer:

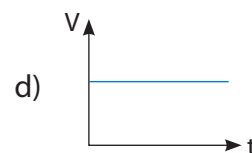
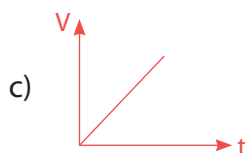
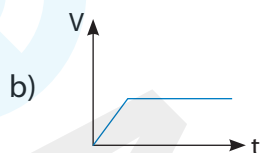
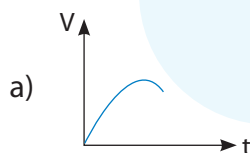
- Why does the cell pass through this phase?

- It prepares the cell for division by duplicating the genetic material (DNA) and the occurrence of some important biological processes.



3 (A) Choose the correct answer:

- 1 Which of the following graphical relations represents a body moving by a uniform acceleration?



- 2 If you put an object in front of a plane mirror, the ratio between the length of the image and the length of the object is

a) more than one b) not equal one c) less than one d) **equal to one**

- 3 The nucleolus and the nuclear membrane disappear in

a) metaphase b) telophase c) **prophase** d) interphase

(B) Compare between each of the following:

1

Crossing star theory	Modern theory
Origin of the solar system: It was originally the Sun.	Origin of the solar system: A star rather than the Sun.

2

Focus of mirror	Focus of lens
It is the point of collection of the parallel rays after being reflected from the mirror.	It is the point of collection of the parallel light rays after their refraction from the lens.

(C) Give reasons for:

- 1 To obtain a suitable image of an object, it should be placed at a distance less than the focal length of the concave mirror.

- Because the formed image will be virtual, upright, and magnified.

- 2 The reproduction by spores is one of the forms of asexual reproduction.

- Because the new organisms are developed from one parental individual.

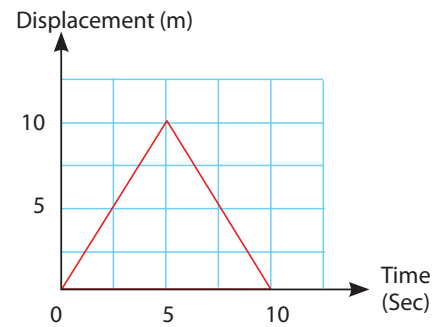
4 (A) Write the scientific term for each of the following:

- 1 A spherical mirror its shining surface is a part of the outer surface of the sphere.
(Convex mirror)
- 2 A gaseous sphere revolving around itself, from which the solar system assumed to be originated.
(Nebula)
- 3 The theory that assumed that an explosion results in all forms of energy, matter, space, and time.
(Big Bang theory)

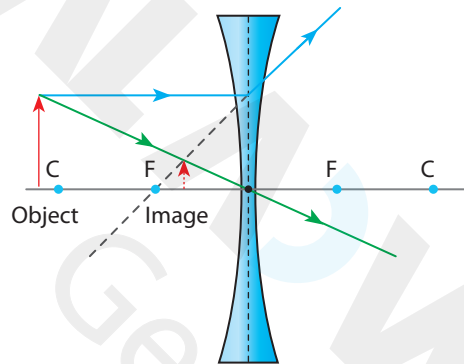
(B) Answer the following questions:

- 1 From the opposite figure, calculate:

- a. Total distance = $10 + 10 = 20 \text{ m}$
- b. Displacement = Zero
- c. Velocity after 5 seconds = $V = \frac{\text{Distancs}}{\text{Time}} = \frac{10}{5} = 2 \text{ m/sec}$



- 2 Determine the position and the properties of the formed image by drawing two light rays only.

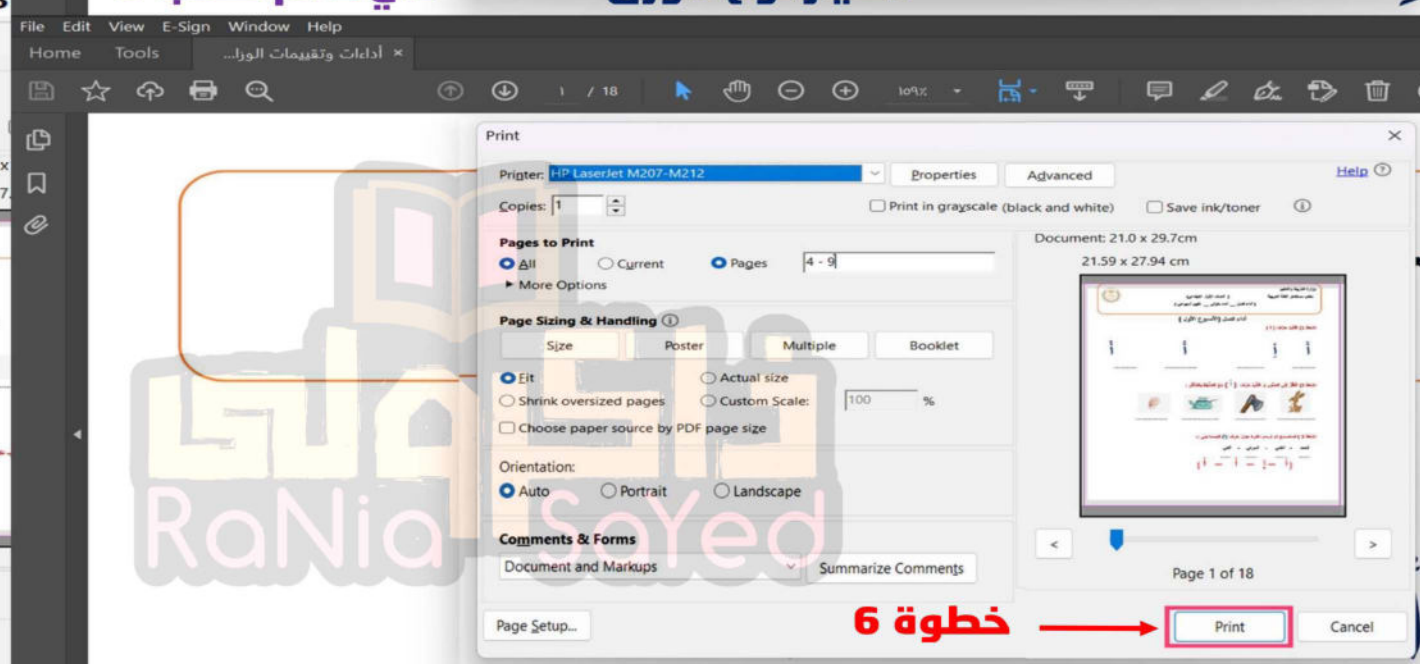
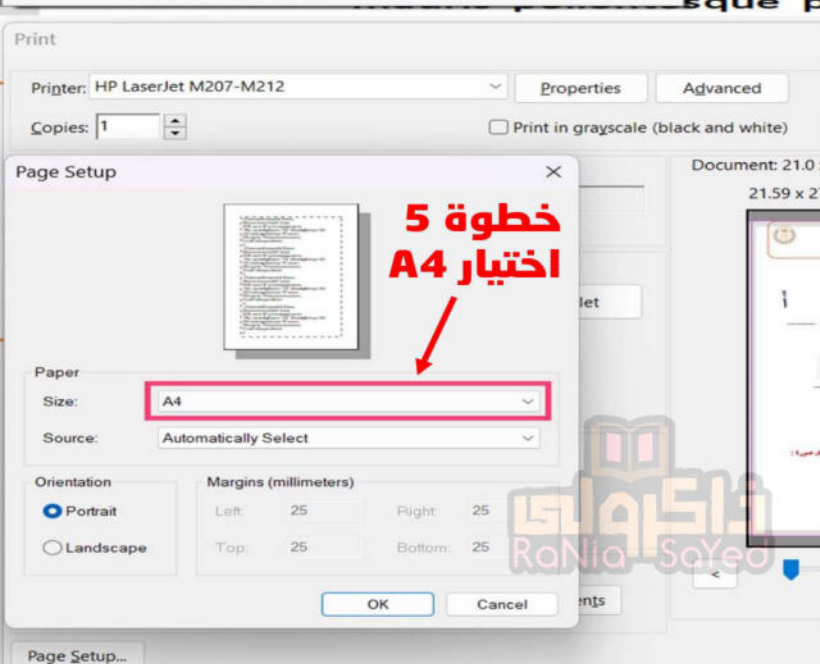
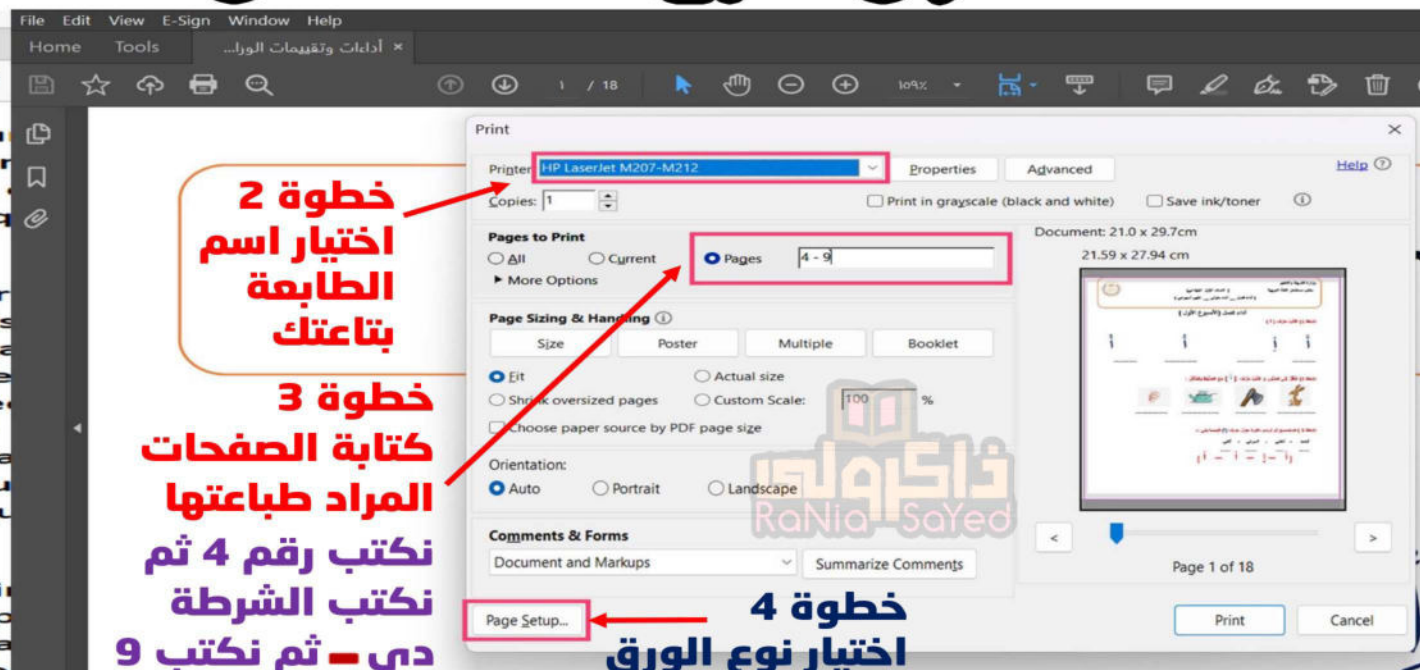
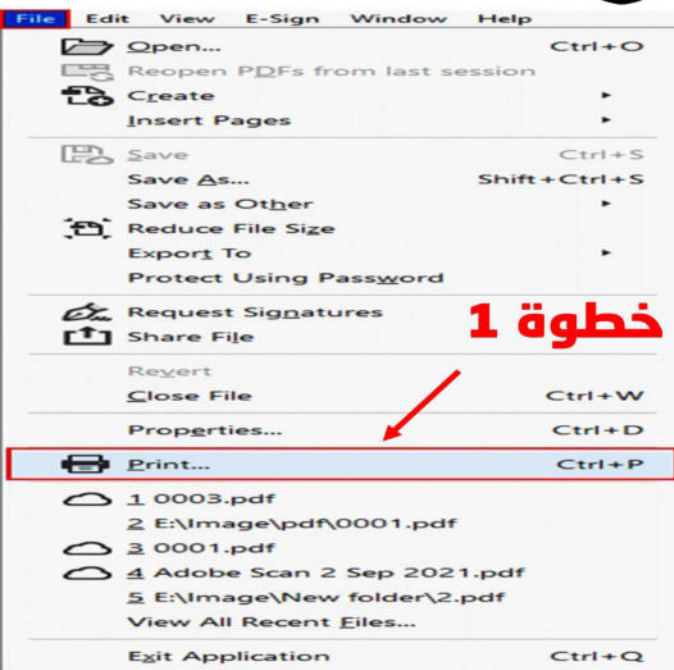


- The image position: It is nearer to the object's position (according to the lens), and in the same direction.
- The image properties: Virtual, erect, and diminished

(C) Answer the following questions:

- 1 Mention the first law of light reflection: Angle of incidence = Angle of reflection
- 2 Mention the role or the importance of DNA: It carries the genes that carry the genetic traits of the living organisms.

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



حمل الآن

مجاناً وحصرياً

امتحانات رقم (2)

الترم الاول





Science questions

Model exam (1)

choose the correct answer:

1. The two factors that describe the motion of body are
(speed & time- distance & time - area & time - displacement & speed)
2. From vector quantities (mass - time - length - displacement)
3. From living organism that reproduce by budding
(mushroom - yeast fungi - star fish - amoeba)
4. Spherical mirror its radius 20 cm, its focal length equal.. (10 -20 - 40 - 60)
5. The light ray which fall passes through the optical center of length it
(refract through the focus - refract parallel to principal axis - passes without any refraction)
6. The solar system is located in(the center of galaxy - the edge of galaxy - nebula)

Model exam (2)

choose the correct answer:

1. The light ray which fall passes through the focus of concave mirror it reflect
(through the focus - parallel to principal axis - on itself - through its pole)
2. From scalar quantities (mass - acceleration - velocity - displacement)
3. A body is put in the front of concave length an equal image is formed at a distance 10cm from the pole of mirror so its focal length = ... (2 - 5 - 10 - 20)
4. Universe is formed from the merging of&..... particles.
(Oxygen& nitrogen - Oxygen& hydrogen - nitrogen &helium - hydrogen& helium)
5. The offspring produced from asexual reproduction carryout the traitsthe parent
(differ from - identical to - carry both male and female traits)
6. The phase that included adverse changes in mitosis cell division is
(prophase - metaphase - anaphase - interphase)

Model exam (3)

choose the correct answer:

1. The ability of some animals to compensate their missing parts is.....
(budding - binary fission - vegetative - regeneration)
 2. A gaseous flaming sphere that form solar system (near - medium - far - near & far)
 3. A light ray fall on a plane mirror with incident angle equal 30 ,So the reflected angle equal
(20 - 30 - 60 - 90)
 4. A body starts its movement from rest after 2 sec. its speed reaches to 10 m/s ,so the change in the speed of body after 2 sec=.....m/s². (5 - 8 - 10 - 20)
 5. The sight defect which is resulted from the decrease in eye ball diameter is.....
(shortsightedness - cataract - longsightedness - blindness)
 6. The ratio between total distance to the total time need to cover this distance is
(final speed - displacement - average speed - relative speed)
-

Model exam (4)

choose the correct answer:

1. It is the actual length that the body cover from initial position to its final position
(final speed - displacement - average speed - distance)
2. A body of length 10 cm is put in the front of concave lens at a distance 4 cm from its optical center, so the length of the body's image equal... (3 - 10 - 15 - 20) cm
3. After 10000 million years from big bang the is formed
(sun - ancestral of galaxies - earliest life - no correct answer)
4.scientist stablished the modern theory. (Laplace - chamberlain & molton- hoyle)
5. The phase at which chromosomes pairs are arranged along cell equator is
(interphase - prophase1 - metaphase - metaphase1)
6. In animal cell Spindle fiber is formed from..(cytoplasm - centrosome- nucleus -centromere)

Model exam (5)

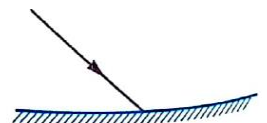
1) choose the correct answer:

1. A car move with speed =10 m/s find its relative speed related to an observer move with the same speed and same direction (0 - 10 - 20 - 30) m/s
 2. A body of length 5 cm is put in the front of concave mirror at a distance 4 cm from its pole, an image virtual, erect and magnified image is formed for the body so the body is put at (distance more than double focal length - distance between center and focus
distance less than focal length)
 3. Theory explain the origin of universe .
(nebular - big bang - crossing star - modern)
 4. In crossing star theory the solar system was a.... (nebula - sun - other star - other planet)
 5. The type of reproduction in plants which not reproduce by seeds
(vegetative - budding - regeneration - binary fission)
 6. In plant cell Spindle fiber is formed from...(cytoplasm - centrosome- nucleus -centromere)
-

Model exam (6)

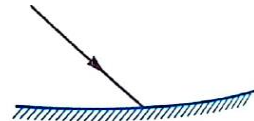
1) choose the correct answer:

1. If the relative speed of a car is 50 km/h relative to an observer in a bus move in the same direction at 70 km/h therefore the actual speed of this car iskm/h
(20 - 70 - 120 - 170)
2. If the angle between the incident ray and the surface of mirror is 130 , therefore the angle of reflection = (40 - 50 - 90 - 130)
3. Fred hoyle assumed that the sun controls in the orbit of planets around it due toof the sun (temperature - rotational speed - the attraction force -glowing)
4. If the nucleus of maize pollen grain contains 10 chromosomes then the nucleus of somatic cell of the plant containchromosomes (5 - 10 - 15 - 20)
5. The source of genetic variation is due toreproduction
(sexual - a sexual - vegetative - regeneration)
6. Ais used to correct the short sight defect
(convex lens - convex mirror - concave lens - concave mirror)



1) choose the correct answer:

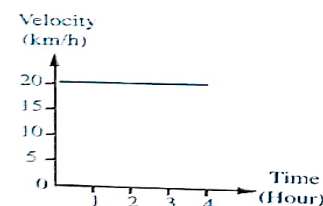
- If a car speed is 50 m/s and the driver used the breaks to stop the car ,there fore the time needed to stop the car if it moves with uniform acceleration = 10 m/s^2
(5 - 10 - 20 - 25) sec
- If the angle between the incident ray and the surface of mirror is 60° , therefore the angle of reflection = (20 - 30 - 50 - 60)
- Chromosome chemically consists of nucleic acidand protein
(HNO_3 - H_2SO_4 - DNA - CFC)
- If the nucleus of a muscle cell of rabbit contains 22 pairs of chromosomes then the nucleus of sperm cell ofchromosomes (11 - 22 - 44 - 46)
-phenomena take place at the end of prophase 1
(big bang - aurora - crossing over - regeneration)
- Ais used to correct the long sight defect
(convex lens - convex mirror - concave lens - concave mirror)



Model exam (8)

1) choose the correct answer:

- The convex lens which has the great thickness its focal length is
(4 - 6 - 8 - 10) cm
- the following graph refers to (static body - uniform speed - uniform acceleration)
- if the speed of car equal 72 km/h this means that its speed equal
(16 - 18 - 20 - 40) m/s
- reproduction in yeast and starfish depends on.....
(Fertilization - regeneration - mitotic division _ meiotic division)
- the source of stars energy is
(chemical reactions - burning gases - inflammable gases- nuclear reaction)
- the image formed by concave lens is always
(erect & magnified - inverted & small - virtual & small - real & magnified)



حمل الآن

مجاناً وحصرياً

امتحانات رقم (3)

الترم الاول



Final Examinations

Model Exam (1)

Answer the following questions:

Question 1:

A. Replace each of the following statements by a scientific term:

1. The change in the position of an object by the time relative to a reference point.
(.....)
2. It contains the Sun and the solar system.
(.....)
3. The mid-point on the reflecting surface of the mirror.
(.....)
4. The part in the cell which is responsible for cellular division.
(.....)
5. The incident light ray, the reflected light ray and the normal line all lie in the same plane perpendicular to the reflecting surface.
(.....)

B. Compare between:

1. Distance and displacement in terms of definition and type of the physical quantity.

.....

.....

.....

2. Galaxy and solar system in terms of definition.

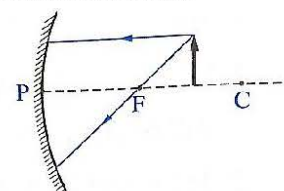
.....

.....

.....

C. Draw the figure in your answer paper, then:

1. Complete the path of the incident rays on the mirror from the object.
2. Mention the characteristics of the formed image and its position.



Question 2:

A. Correct the underlined words:

1. The spindle fibers in the animal cell is formed from condensing the cytoplasm.
(.....)
2. The lens is a transparent medium that reflects the light.
(.....)
3. In plane mirror the object distance from mirror is larger than the image distance.
(.....)
4. Asexual reproduction is a source of genetic variation.
(.....)
5. The Sun takes about 250 million years to complete one rotation around the center of the galaxy.
(.....)

B. What is meant by ... ?

1. A car moving at a uniform speed = 80 km/hour.
.....
2. The focal length of a concave mirror = 7 cm.
.....
3. The average speed of a moving car 70 km/hour.
.....

C. Within 2.5 seconds the speed of a car increases from 20 m/s to 25m/s, while a bike moves from rest and its speed reaches 5 m/s in one second. Calculate the acceleration of the car and the acceleration of the bike?

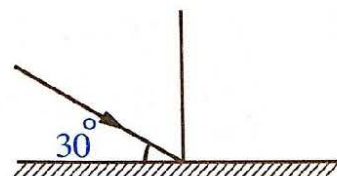
.....

.....

Question 3:

A. Choose the correct answer:

1. Examples of scalar's physical quantities.....
 - a. mass & force.
 - b, force & acceleration.
 - c. mass & distance.
 - d. force & time.
2. The two gases which produced galaxies, stars and universe through millions of years are
 - a. oxygen & helium.
 - b. helium & hydrogen.
 - c. oxygen & carbon dioxide.
 - d. helium & carbon dioxide.
3.reproduces by budding.
 - a. Amoeba
 - b. Starfish
 - c. Sponge
 - d. Mushroom
4. A light ray falls on to a plane mirror as in the figure it reflected, where the reflection angle equals.....
 - a. 30
 - b. 60
 - c. 20
 - d. 90
5. The universe contains
 - a. galaxies & stars.
 - b. planets and moons.
 - c. living organisms.
 - d. all the previous.



B. Give reasons for:

1. On their flights, pilots take into consideration the velocity of the wind.

.....

2. The universe is in continuous expansion.

.....

3. Cataract disease infects the eye.

.....

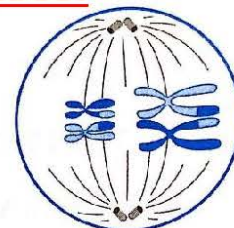
C. The opposite figure represents one of the division phases:

1. What is the name of this phase and the type of division?

.....

2. What is the name of next phase that follow it.

.....



Question 4:

A. Complete the following sentences:

1. The scientist established the modern theory of evolution of the solar system.

2. Measuring the relative speed depends on the position of the who determines the magnitude of this speed.

3. The Egyptian scientist Mustafa El Said discovered a way to detect the cancer cell by using

4. A short-sighted person needs a medical eye glasses with lenses.

5. The chromosome chemically consists of nucleic acid called DNA and

B. What happens when... ?

1. A light ray passes through the optical center of a convex lens.

.....

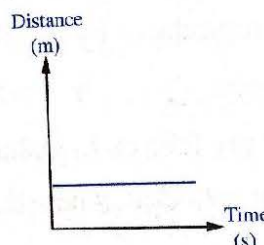
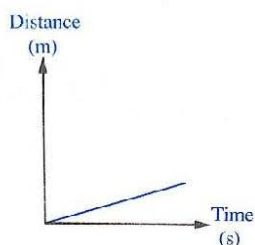
2. The nebula gradually lost its heat (from point of view of Laplace scientist).

.....

3. A plane mirror is placed at the left side of the driver instead of the convex mirror.

.....

C. Describe the motion of the object in each of the following graph:



Model Exam (2)

Answer the following questions:

Question 1:

A. Complete the following sentences:

1. Speed measuring unit is,while the measuring unit of acceleration is
2. The crossing over phenomenon occurs inofdivision.
3. andare types of spherical mirrors.
4. The Sun and the planets revolving around it, rotate around the center of galaxy.
5. Force is a physical quantity, while mass is aphysical quantity.

B. What's meant by...?

1. Angle of incidence.
.....
2. Regular (uniform) speed.
.....
3. The pole of the mirror.
.....

C. A car starts movement from rest until its speed reaches 25 m/s after 10 seconds.

1. Calculate the value of acceleration.
.....
2. What kind is the acceleration?

Question 2:

A. Write the scientific term for each of the following statements:

1. The combination of the male gamete and the female gamete to form zygote.
(.....)
2. A disease that infects the eye lens and it becomes opaque.
(.....)
3. A vector quantity that equals the displacement in one second.
(.....)

4. Ability of animals to compensate their missing parts.

(.....)

5. The distance that light travels in a year.

(.....)

B. What happens in the following cases?

1. If an object moves at a regular speed, what is the value of its acceleration?

.....

2. When there is elongation in the ball of the eye.

.....

C. An object moves according to the graphical relation shown in the opposite figure, calculate:

1. The speed of the object's motion and mention its kind.

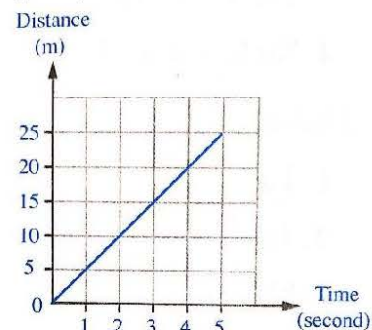
.....

2. The time that the object takes to cover a distance of 15 meters.

.....

3. The distance that the object covers in 4 seconds.

.....



Question 3:

A. Choose the correct answer:

1- human being stood in front of a plane mirror at a distance of 2 meters, so the distance between him and his image is

- a. 1 meter.
- b. 2 meters.
- c. 3 meters.
- d. 4 meters.

2. Meiotic division in flowering plants occurs in the anther to produce

- a. ovum.
- b. chromosome.
- c. pollen grains.
- d. sperm.

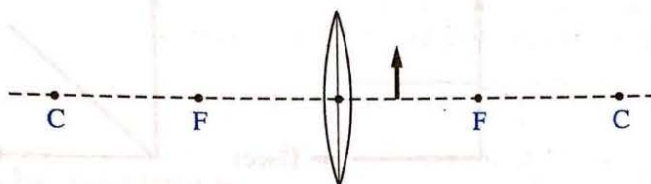
3. Within minutes of the Big Bang, the percentage of hydrogen in the universe was.....
 - a. 25%
 - b. 50%
 - c. 75%
 - d. 100%
4. If the speed of a car is 36 km/h , it means that its speed ism/sec.
 - a. 10
 - b. 20
 - c. 40
 - d. 80
5. The spindle fibres appears during the cell division through the
 - a. telophase.
 - b. interphase.
 - c. prophase.
 - d. metaphase.

B. Give reasons for:

1. The moving car seems stable to the observer who moves at the same speed and direction.
.....
2. The cell passes through interphase before starting meiotic division.
.....
3. Pilots take in consideration the velocity and the direction of the wind.
.....

C. In the shows figure:

1. Complete the ray to get the image.
2. Mention the properties of the image.



Question 4

A. Correct the underlined words:

1. The lens is a transparent medium that reflects the light and defined with two spherical surfaces.
(.....)

2. If the object's speed decreases by time, it is called **acceleration**.
(.....)
3. Amoeba reproduces by **Budding**.
(.....)
4. **Mitotic** division leads to form gametes.
(.....)
5. The scientist who found the modern theory about the evolution of the solar system is **Laplace**.
(.....)

B. Mention one usage for each of the following:

1. The speedometer.
.....
2. Nano-molecules of gold.
.....

C. "Two cells divide, one in a human female stomach and the other in her ovary" Mention:

1. The type of the division in each of the two cells.
.....
2. The number of the cells produced from the stomach cell division.
.....



Model Exam (3)

Answer the following questions:

Question 1:

A. Choose the correct answer:

1. Amoeba reproduce by
 - a. binary fission.
 - b. gametes.
 - c. regeneration.
 - d. budding.
2. Scientists believe that the matter of the universe was aball of high pressure and high temperature.
 - a. liquid
 - b. solid
 - c. gaseous
 - d. no correct answer
3. When an object is placed between the focus of a convex lens and its center of curvature, the formed image will be
 - a. real, inverted and diminished.
 - b. real, inverted and magnified.
 - c. virtual, erect and magnified.
 - d. virtual, erect and diminished.

B. Mention the name of the scientist who:

1. Put the nebular assumption theory about the evolution of the solar system.

.....

2. Discovered a way to use Nano-molecules of gold to detect the cancer.

.....

3. Used the way of concentrating the Sun rays to destroy the Roman fleet in 212 B.C.

.....

C. In a race, a runner moves at a regular speed of 10m/sec, from the start of the race to the fifth second and there was a car that moves beside him, the speed of the car increases from zero to 25 m/sec. in 5 seconds also.

(a) Draw a graph (speed - time) and record on it.

- (1) the movement of the runner.
- (2) the movement of the car.

b) Use the previous graph to calculate:

- (1) the distance covered by the runner.
- (2) the time in which the speed of the runner is equal to the speed of the car.

Question 2:

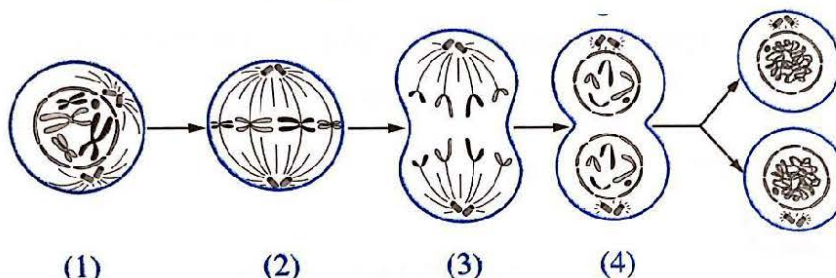
A. Write the scientific term of the following:

1. Fibers extend between the two poles of the cell in prophase.
(.....)
2. The change in the position of a body by the time related to the position of another body.
(.....)
3. The image that cannot be received on the screen.
(.....)
4. A theory assumed that the solar system was originally a big star which is the Sun.
(.....)

B. Mention the importance for the following:

1. A convex mirror is put at the left side of the driver of the car.
.....
2. The direction of the wind affects the velocity of aircraft (plans).
.....

B. Look at the following figure, then answer the following:



1. What is the kind of cell division in this figure?

2. What is the name of phase number (2) and (3)?

3. What will disappear in phase number (1)?

Question 3.

A. Give reasons for:

1. In short-sightedness, the retina is far from the eye lens.

2. The importance of interphase in the cellular division.

3. The object which moves at regular speed, its acceleration equals zero.

4. The constancy of the planets in their orbits around the Sun.

B. What happens when... ?

1. If the liver gets injured or a part of it is cut.

2. A light ray passes through the optical center of the lens.

- C.** Two trains move parallel to each other but in opposite direction the speed of the first train 65 km/h. and the speed of the second train is 85 km./h. Calculate the speed of the first train that observed by passengers in the second train.

.....

Question 4:

A. Correct the underlined words:

1. The force is the length of the shortest straight line between two positions.
 (.....)
2. It is a cell produced due to fertilization called tetrad.
 (.....)
3. The lion is considered one of the fastest wild animals.
 (.....)
4. The chromosome chemically consists of nuclear acid called DNA and starch.
 (.....)

B. What is meant by ... ?

1. Crossing over phenomenon.

2. Vector physical quantities.

- C.** Show by drawing the pass and the directions of rays to an object in front of a concave mirror at a distance greater than double focal length, knowing that its focal length is 0.025 m, then determine the properties of the formed image.

Model Exam (4)

Answer the following questions:

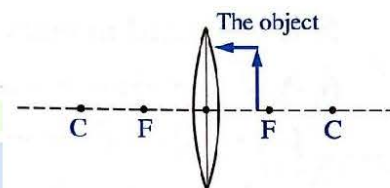
Question 1:

A. Complete the following statements:

1. The crossing over phenomenon occurs inof first meiosis division.
2. The solar system consists of a number of planets revolve around the Sun.
3. The physical quantity that its magnitude and direction are necessary for identifying it is called
4. The combination of the male gamete and female gamete to form the zygote is known as
5. A concave mirror has a focal length of 20 cm, then the radius of curvature of its spherical surface equals
6. The space which contains all the galaxies, stars, planets, moons, living organisms and everything is called

B. From the opposite figure:

Complete the figure to get an image for the object.
and mention its properties of the formed image.



C. What happens in the following cases...?

1. Increase the diameter of the eyeball from the normal state.
.....
2. If the body cuts the same distance in half the time (to the speed of a body).
.....

Question 2:

A. Correct the underlined words of the following:

1. The universe emerged from the particles of oxygen and hydrogen.
(.....)

2. Form the properties of the image formed by the plane mirror is real , inverted, reversed and equal to the object.

(.....)

3. The chromosome consists of two chromatids connected together at the cytoplasm.

(.....)

4. The irregular speed is the value of displacement at a unit time and is a vector quantity.

(.....)

5. Form speed measurement units are meter / second² or kilometer/hour.

(.....)

6. The crossing star is the largest star that can be seen from the surface of the Earth.

(.....)

B What is meant by each of the following...?

1. Light reflection phenomenon.

.....

2. A car moving at a uniform speed = 80 kms/hour.

.....

C. Mention one example for each of the following:

1. Scalar physical quantity.

2. A living organism reproduces by regeneration.

Question 3:

A. Write the scientific term for each of the following:

1. The value of an object's speed relative to the observer.

(.....)

2. A flat gaseous round disk that formed the solar system planets according to the perception of "Laplace" scientist.

(.....)

3. A cell division that occurs in the somatic cells and results in the growth of the living organism.

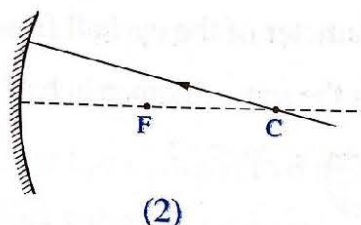
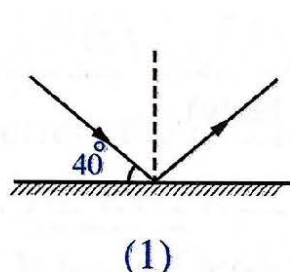
(.....)

4. The actual length of the path that a moving object takes from the starting point of movement to the end point.

(.....)

5. It is located in one of the spiral arms of the Milky Way on the edge of the galaxy.
(.....)
6. A biological process where the living organism produces new individuals of the same kind and thus ensuring its continuity.
(.....)

B. Calculate the value of the angle of reflection in the following two figures:



C. Compare between each of the following:

1. The positive acceleration and the negative acceleration according to (the concept of definition).

Positive acceleration	Negative acceleration

2. Real image and virtual image according to (the ability of receiving on a screen).

Real image	Virtual image

Question 4:

A. Choose the correct answer:

1. The founder of modern theory of the solar system isscientist.
 - a. Moulton
 - b. Chamberlain
 - c. Fred Hoyle
2. The image formed by using a concave lens is
 - a. real, enlarged, and inverted.
 - b. virtual, smaller and inverted.
 - c. virtual, smaller and upright.
3. At the end of this phase, the nucleolus and nuclear membrane disappear from the mitosis division
 - a. prophase.
 - b. metaphase.
 - c. telophase.
4. If a light ray falls passing through the optical centre of the convex lens, it leaves the lens
 - a. passing through the focus.
 - b. parallel to the principal axis.
 - c. without refraction.
5. The continuous expansion of the universe, is due to
 - a. separation of galaxies.
 - b. approaching of galaxies.
 - c. equivalent to galaxies.

B. Give reasons for each of the following:

1. A convex mirror is put at the left side and right of the driver of the car.
.....
2. Occurrence of interphase before starting the mitosis cell division.
.....

C. A racer covered 50 meters northward within 30 seconds then 100 meters eastward within 60 seconds then 50 meters southward within 10 seconds, and then returns back to the start point within 40 seconds:

1. Calculate the total distance that the racer moved.

.....

2. What is the average speed of the racer?

.....

3. Calculate the displacement.

.....



Ministry's Examinations

A. Choose the correct answer:

- 1- The two factors that describe the movement of a body are.....
 - a. speed and time
 - b. distance and time
 - c. area and time
 - d. displacement and speed
- 2- The ability of some animals to compensate the missing parts is called
 - a. regeneration
 - b. budding
 - c. gametes
 - d. cutting)
- 3- The image of a body formed by the plane mirror is.....
 - a. virtual, upright and enlarged
 - b. virtual, upright and equal
 - c. virtual, upright and diminished
 - d. real, inverted and equal
- 4- The phase in which the genetic material in the cell is duplicated.....
 - a. telophase
 - b. interphase
 - c. anaphase
 - d. metaphase
- 5- The scientist that established the theory of the nebula is
 - a. Newton
 - b. Einstein
 - c. Fred Hoyle
 - d. Laplace)
- 6- If the focal length of a concave mirror is 6 cm, so its radius of curvature is
 - a. 18 cm
 - b. 3 cm
 - c. 6 cm
 - d. 12 cm

7- Which of the following is considered as scalar physical quantities.....

- a. the radius and the area
- b. the time and the force
- c. the acceleration and the vector velocity
- d. the mass and the displacement

8- The formed image of body placed at a distance less than the double focal length and more than the focal length of a concave mirror isimage.

- a. virtual, enlarged
- b. real, enlarged
- c. real, diminished
- d. virtual, diminished)

9- Meiosis division occurs in cells of the

- a. Liver
- b. Skin
- c. Bones
- d. Testes

10- The measuring unit of speed is

- a. Meter
- b. Meter/sec.
- c. Meter. Sec
- d. Meter/sec²

11- The parental individual disappear when the reproduction occurs in

- a. starfish
- b. bread mould
- c. amoeba
- d. hydra

B. Give reasons for each of the following:

1- It is difficult for a car to move at uniform speed.

.....

2- The distance is a scalar quantity while the displacement is a vector quantity.

.....

3- Revolution of the Earth in a fixed orbit around the Sun.

.....

4- The incident light ray falls perpendicular on a plane mirror reflects on itself.

.....

5- Concave mirror is called by convergent mirror.

.....

C. Rewrite the following statements after correcting the underlined word(s):

1- The real image is that cannot be received on screen.

.....

2- Genes are parts of the DNA that exist in the cytoplasm of the cell.

.....

3- Displacement equals the acceleration when the body moves in a straight line.

.....

4- Chromosomes are arranged in the middle of the cell in the telophase.

.....

5- The yeast fungus reproduces asexually by binary fission.

.....

6- The measuring unit of acceleration is meter/second.

.....

7- The average speed is the speed of a moving body relative to the observer.

.....

8- A concave lens is used in treating long-sightedness.

.....

D. Write the scientific term for each of the following:

1- The distance covered in a certain direction from the start point to the end point.

(.....)

2- The connecting point of two chromatids together.

(.....)

3- An imaginary point inside the lens that lies on the principal axis.

(.....)

4- The total distance that a moving object covers divided by the total time taken to cover this distance.

(.....)

5- The straight line that passes by the center of curvature of the mirror and any point on its surface except the pole of the mirror.

(.....)

6- It is located in one of the spiral arms of the Milky Way on the edge of the galaxy.

(.....)

7- The ability of some animals to compensate its missing parts by reproduction.

(.....)

8- Flat rotating gaseous disc which form the planets of the solar system.

(.....)

9- The change of an object's speed in one second.

(.....)

10- The straight line that passes by the pole of the mirror and its center of curvature.

(.....)

12- Force makes the planets of the solar system remain in their orbits and kept them in continuous rotation.

(.....)

13- Physical quantities needed to identify their magnitude as well as direction.

(.....)

13- A process in which combination between a male gamete with a female gamete takes place and formation of zygote.

(.....)

14- Change of object's position as time passes according to the position of another object.

(.....)

15- The line that joins between the two centers of curvature of the lens passing by its optical center.

(.....)

16- A process by which the living organism produces individuals with traits differ from parents.

(.....)

17- The displacement covered in a unit time.

(.....)

18- Chemically consists of nucleic acid called DNA and protein.

(.....)

19- A theory explains the origin of the universe since more than 15000 million years.

(.....)

- 20- The speed of an object when it covers equal distances at unequal periods of time.
(.....)
- 21- The cell produced from the combination of male gamete and female one.
(.....)
- 22- A mirror whose reflecting surface is the inner surface of a sphere.
(.....)
- 23- It is the wide and extended space that contains galaxies.
(.....)

E. Complete the following statements:

- 1- The image formed by the.....lens is always virtual, upright and diminished.
- 2- The reproduction occurs in yeast fungus by and in the mushrooms by
- 3- The source of genetic variation is the.....reproduction.
- 4- The two gases which produced galaxies, stars and universe through millions of years are.....and.....
- 5- The convex lens..... the light while the convex mirror.....the light.
- 6- Physical quantities are classified into two types which are..... and.....
- 7- The crossing over phenomenon takes place in at division.
- 8- The focal length of the convex lens is the distance between and
- 9- The measuring unit of speed is.....while the measuring unit of acceleration is.....

F. Put (✓) or (x) in the front :

- 1-The acceleration is a vector quantity whose unit is m/s. (.....)
- 2- The scientist who establishes the nebula theory is Alfred hale. (.....)
- 3- The image formed by using a concave lens is virtual, upright and smaller. (.....)
- 4- The unicellular protozoans reproduce by binary fission. (.....)
- 5- The image formed by plane mirror is real. (.....)
- 6- Gravitational force of sun controls the rotation of planets around it. (.....)
- 7- Meiosis division takes place in somatic cells. (.....)
- 8- The spindle fibers are formed from the centrosome in animal cells. (.....)
- 9- The formed image by the convex mirror is always virtual and equals to the object. (.....)
- 10- Hydra and sponge reproduce by budding. (.....)

11- Our galaxy is called Milky Way Galaxy.

G. Compare between each of the following:

- 1- Short-sightedness and long-sightedness (in term of definition).
- 2- Somatic and reproductive cells.
- 3- Sexual and asexual reproduction.

H. What happens in the following cases...?

- 1- A light ray falls parallel to the principal axis of a convex lens.
-

I. Problems:

- 1- If the number of chromosomes in the human liver cell is (46 chromosomes), Find the number of chromosomes in each of the following:

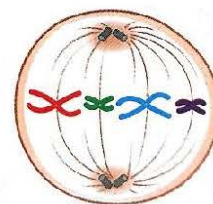
- a. Sperm
- b. Fertilized ovum
- c. The skin

- 2- Show by drawing only each of the following:

- a. A body at rest.
- b. The structure of chromosome.

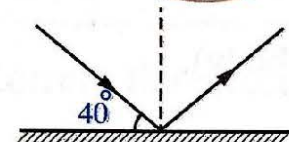
- 3- The opposite drawing shows one of mitosis phases, answer the following questions:

- a. Name of this phase.
- b. Which of the phase, the spindle fibers disappear.

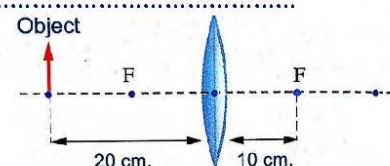


- 4- From the shown figure calculate:

- a. Angle of incident.
- b. Angle of reflection.



- 5- Complete the drawing then mention the properties of the formed image.
-



6- Mention the type of reproduction that takes place in:

- Yeast fungus.
- Amoeba.
- Starfish.

7- From the shown figures describe the motion of the body in each case.

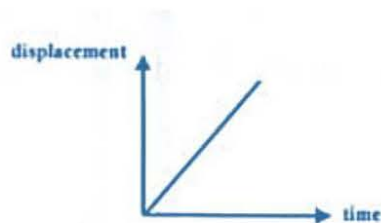


Figure (A)

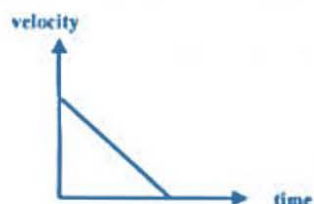


Figure (B)

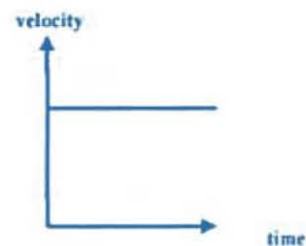


Figure (C)

8- Describe the importance of meiotic division.

9- A car moves from rest and its speed reaches 42m/sec. in 6 sec.

Calculate:

- The acceleration by which the car moves.

- Mention the type of acceleration.



حمل الآن

مجانا وحصريا

امتحانات رقم (4)

الترم الاول



Exam 1

Q1: Write the scientific term:

- 1- The value of change of an object's speed in one second.
- 2- The unit that is used to measure the distances between the celestial bodies.
- 3- Angle of incidence = Angle of reflection.
- 4- The shortest straight line between two positions of a moving object.
- 5- The revolving of the earth around its axis in a period of time.
- 6- The ability of some animals to compensate their missing parts.
- 7- Cells that lead to the formation of gametes that contain N chromosomes.
- 8- Twice the focal length of a spherical mirror.
- 9- The change of an object's location as time passes according to the location of another object.
- 10- A type of reproduction which considered a source of genetic variation.

Q2: Complete the following:

- 1-The genetic material in the nucleus of the cell consists of
- 2- From the examples of asexual reproduction, budding in Fungus
- 3- The chromosomes pairs are arranged in first metaphase in the line of the cell
- 4- Meiosis cell division occurs in the anther of a flowering plant to produce
- 5- The solar system is located in one of the spiral arms of galaxy.
- 6- rotates around the sun once every 12 earthly years.
- 7- Within minutes of the big bang, the atomic particles merged together producing and gases.

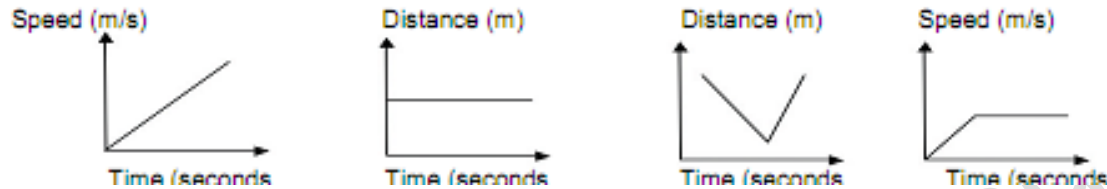
Q3: Give reasons:

- 1-The perpendicular incident light ray on the plane mirror reflects on itself.
- 2- The continuous expansion of space.
- 3- The constancy of the Earth's rotation in an orbit around the sun.

4- A convex mirror is put at the left side of the driver of the car.

Q4: Choose the correct answer:

1- Which of the following graphical relations represents the moving of the body by uniform acceleration?



2-simple motion is the motion in (1 – 2 – 3) dimensions.

3-concave mirror is a part of (sphere – triangle – square)

4-radius of curvature of the mirror is (double – half – quarter) of the focal length.

5-Angle of reflection (equal to - larger than – Smaller than) the angle of incidence.

Q5: Compare between long and short sight from the following points:

a- The type of lens used in treatment of each one

b-The cause of each one

Q6: Draw a diagram to illustrate the image formed when the object at a distance more than double focal length of concave mirror.

Q7: Mention an activity to determine the radius of curvature of a concave mirror?

Q8: A body started to move from point x to point A covering a distance of 30 meters to the north in 20 seconds, then it moves 60 meters eastward to point b within 30seconds then it moves 30meters southward to point c within 10 seconds. Calculate:

1- The total distance covered by the body.

2- The total time taken by the body. 3- the average velocity. 4- The average speed.

Q9: A convex lens with a focal length of 10 cm, an object was placed at a distance of 20 cm from the lens. Assign the distance of the object's image from the lens and mention its properties.

GOOD Luck

Mr.M. Sultan

Exam 2

Q1: Write the scientific term:

- 1- The point of collection of parallel rays in the concave mirror.
- 2- A phase in which some important biological process occur to prepare the cell for division and genetic material in the cell is doubled.
- 3- The point that is in the middle of the reflective surface of the mirror.
- 4- The combination of the male and the female gametes to form zygote.
- 5- It is the sun and eight planets revolving around it.
- 6- A flat and gaseous round disk that formed the solar system.
- 7- A mirror that forms a virtual, upright and small image for an object.
- 8- It contributes in genes exchanging between the two homologous chromosome's chromatids and distributing them in the gametes.
- 9- It is located in one of the spiral arms of the Milky Way.
- 10- A disease causes darkness of the eye lens.

Q2: Complete the following:

- 1- The longest day is of Planet, whereas the shortest one is of
- 2- The incident light ray which is parallel to the principal axis of a concave mirror reflects passing through
- 3- The chromosome chemically consists of nucleic acid called and protein.
- 4- The displacement is considered as quantity, while the mass is considered as quantity.
- 5- The radius of the concave mirror equals of its focal length.
- 6- Meiosis division occurs in living organisms that reproduce by
- 7- The most important vision defects are and

Q3: Give reasons:

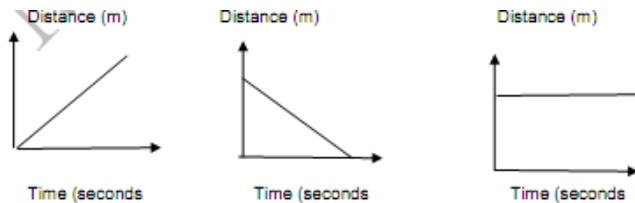
- 1- Sexual reproduction is the source of variation between individuals.
- 2- The shortsighted person requires medical glasses with concave lenses.
- 3- Asexual reproduction produces offspring identical to the parents.

4- A convex mirror is put at the left side of the driver of the car.

5- The shortest year is on mercury planet.

Q4: Choose the correct answer:

1- Which of the following graphs represent the movement of an object at constant speed?



2-The two factors can be used to describe the body motion are:

1- Speed and time

2- distance and time

3- Area and time

4- displacement and speed

3- The value of the speed $(v) = \frac{d_1+d_2+d_3}{t_1+t_2+t_3}$.That means the produced speed is

..... Speed 1-average 2-increasing 3- nail 4-decreasing

4- A concave lens is placed in the passage of sun rays; a very small image for the sun is formed at a distance 5 cm from the optical centre of the lens, if this lens is used to form an equal image for a body, what is the distance between the body and the optical centers of the lens?

1- 5 cm

2- 10 cm

3- 50 cm

4- 60 cm

5- In which of the following cases the lift rider feels weightlessness phenomenon

1-when the lift ascends upwards with uniform acceleration

2-when the lift ascends upwards with uniform acceleration

3-when the lift descends with uniform velocity

4- When the lift falls

Q5: A race car can move from stationary position and its speed reaches 100 kilometers through 20 seconds. Calculate the acceleration of the car.

Q6: An object is placed in front of convex lens at distance of 6 cm. knowing that the focal length of this lens is 3 cm. 1- Determine by drawing the position of the formed image

2- Mention the characteristics of such image

GOOD Luck

Mr. M. Sultan

Exam 3

Q1: Write the scientific term:

- 1- Asexual reproduction occurs by using plant organs except seeds.
- 2- The line joining between the two centers of curvature of lens passing by the optical center.
- 3- It is the phenomenon of the light bouncing off in same medium when it meets the reflecting surface.
- 4- The angle between the reflected light ray and the normal.
- 5- The expansion of the universe and the atomic particles merged together producing helium and hydrogen.
- 6- The space that contains all the galaxies, stars and planets.
- 7- The image that can't be received on a screen.
- 8- A phenomenon that occurs at the end of prophase 1 and contributes in genes exchange.
- 9- A disease resulting from the formation of the image behind the retina of the eye.
- 10- The biggest star that can be seen clearly by people on the earth surface.

Q2: Complete the following:

- 1- Speed measuring unit is..... and the acceleration measuring unit is.....
- 2- The somatic cells divide by while the reproductive cells divide by.....
- 3- The crossing over phenomena takes place duringof the division.
- 4- The stars move in fixed orbits around the centre of the.....
- 5- The scientist who founds chaos theory that explains solar system formation is

Q3: Give reasons:

- 1- Interphase stage occurs before starting cell division.
- 2- The important of the crossing over phenomenon the first meiotic division.
- 3- Zygote contains the normal number of chromosomes of the organism.
- 4- The object that is placed at the focus of convex lens does not form an image.

5- Concave mirrors are used in solar ovens.

Q4: Choose the correct answer:

1-Units of acceleration is (m/s – m/hr – m/s^2)

2-the image formed in the plane mirror is (real, inverted, small – virtual, upright, larger – virtual, equal in the size)

3- If the radius of curvature of the mirror equals 80 cm, so the focal length equals (160 – 40 – 20) cm.

4- Opposite to a plane mirror you have put an object at distance 5 cm, so the distance between the image and the object is (5 – 10 – 9) cm.

5-velocity = (Displacement \ Time – distance \ Time – Displacement \times T).

6-you should mention the (quantity only – direction only – both of them) to describe the scalar physical quantity.

Q5: If the number of chromosomes in a human pancreatic cell is 23 pairs of chromosomes. What is the number of chromosomes in the following cells: -Skin - sperm - fertilized ovum?

Q6: Draw a diagram to illustrate the Image formed in the concave mirror when the object lies at the center of curvature of the mirror.

Q7: Explain relation between the hereditary structure of offspring and parents in the cases of sexual reproduction and asexual reproduction.

Q8: 6-A boy walked 3.0 km [East] then 5.0 km [North]. What was his displacement? With Drawing.

GOOD Luck

Mr. M. Sultan

Exam 4

Q1: Write the scientific term:

- 1- The moving object covers equal distances at equal periods of time.
- 2- The change of displacement relative to time.
- 3- A point located inside the lens on the principal axis in the mid distance between its faces.
- 4- It contains genetic material from each parent when it grows; it gives a new offspring whose traits combine each parent's traits.
- 5- It is the change in the object's speed in one second.
- 6- It is any straight line that passes by the center of curvature of the mirror and any point on its surface except the pole of the mirror.
- 7- A phase in which chromosomes pairs arrange on cell's equator.
- 8- The force that keeps the continuity of planets rotation in their orbits.
- 9- The value of an object's speed determined in relation to an observer.
- 10- A phenomenon that occurs at the end of prophase 1 and contributes in genes exchange.

Q2: Complete the following:

- 1- It is impossible to obtain real image by using the lens or plane
- 2- The spindle fibers are formed during the cell division in And disappear in
- 3- Amoeba reproduces by bread mold fungus reproduces by
- 4- The result of multiplying (a speed of moving object \times time) =
- 5- The cell contains the genetic material which consists of number of

Q3: Give reasons:

- 1- The moving car seems stable to the observer moves with the same speed and direction.
- 2- The convex lens has two centers of curvatures, while the convex mirror has only one centre.
- 3- The uniform velocity of a car cannot be obtained practically.
- 4- It is impossible to obtain real image by using concave lens.
- 5- The focal vertex of the thick convex lens is less than the thin convex lens.

Q4: An ant crawls 11 cm. north; then, 6 cm. east; and finally, 3 cm. south. What is the value of the displacement? With drawing

Q5: Draw a diagram to illustrate the Image formed in the concave mirror when the object lies between the center of curvature of the mirror and the pole.

Q6: Choose the correct answer:

1- An incident ray falls on a reflection surface at angle:

- 1- 0 2- 90^0 3- 180^0 4- 30^0

2- if the radius of curvature of a lens equals 20 cm, so its focal equals.

- 1- 5m 2- 10 cm 3- 20cm 4- 10m

3- the reproduction which considered as a source of genatic variation is a
Reproduction.

- 1- Budding 2- vegetative 3- sexual 4- asexual

Q7: A child moves down a hill with an acceleration of 2.82 m/s^2 . If her initial speed is 0.0 m/s and her final speed is 15.5 m/s , how long does it take her to travel from the top of the hill to the bottom?

Q8: What is your average speed if you drive a distance of 100 km at a time of 40 h, then the same distance at a time of 60 h?

GOOD Luck

Mr. M. Sultan

Exam 5

Q1: Write the scientific term:

- 1- The force of attraction between the masses of two objects is directly proportion with the amount of their masses and inversely with the square of distance between them.
- 2- The total distance that a moving object covers divided by the total time taken to cover this distance.
- 3- The point of collection of the parallel rays after being reflected from the concave mirror and can be received on a screen.
- 4- A phase where some processes occurs upon which the formation of a complete set of chromosomes that equal in numbers with the parental cell.
- 5- The space that contains all the galaxies, stars and planets.
- 6- The image that can't be received on a screen.
- 7- A process in which the living organism produces individuals with hereditary traits different from the parents.
- 8- The value of change of an object's speed in one second.
- 9- A cell division that occurs in the somatic cells and results in the growth of the living organism.
- 10- An equipment was launched to the space, it allows astronomers an opportunity to study the evolution of the universe after the big bang.

Q2: Complete the following:

- 1- is the image that can be received on a screen.
- 2- Is structural unit of the universe and our galaxy is
- 3- From types of the asexual reproduction binary fission in budding as in
- 4- The chromosome consists of two connected threads at the Centromere point, each thread is called
- 5- Are divided by meiosis which leads to the formation of

Q3: Give reasons:

- 1- The difference in the day due to the difference of the planet.
- 2- The difference in the year due to the difference of the planet.
- 3- Force and acceleration are vectors physical quantities.

4- The long sight is treated by suitable convex lens.

5- Starfish continuous alive even a part of its body is cut.

Q4: Match from (A) to (B):

A	B
object between (F) and (P) image is (1)	Smaller , real , inverted ()
object at (C) image is (2)	Accelerating motion ()
object between (C) and (F) Image is (3)	Magnified , real , inverted ()
Units of velocity are (4)	Equal to the object , real , inverted ()
object after (C) Image is (5)	Descending acceleration ()
Speed is increased in (6)	m\ s or km\ hr ()
	Upright , virtual , larger than the object ()

Q5: Two trains move in two parallel different ways in opposite directions, if the speed of the first train 60 Km/hr and the second moves by speed 10 Km/hr. Calculate the velocity of the first train that observed by passengers in the second train.

Q6: Define each of the following:

1- Crossing over phenomenon

2- the DNA

3- Law of gravitational

Q7: From the following table:

The displacement (m)	10	20	30	40	50	60
The time (second)	5	10	15	20	25	30

1- Represent the relation graphically.

2- Calculate the velocity from the graph.

GOOD Luck

Mr. M. Sultan

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

